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**THE STUDY OF NATURAL HISTORY IN ITS CONNECTION WITH AGRICULTURE.**

It is interesting to know that the American Farmer is beginning to feel that in the successful pursuit of his profession the exercise of intellect is important, as well as that of mere muscle—that the mind must investigate and follow out the laws of nature, while the hands are engaged in the mechanical operations of farm labor. The burden of the hands, too, is greatly relieved, while the mind is engaged in the contemplation and study of the wonderful and mysterious phenomena of the vegetable and animal creations that surround him, in ten thousand forms, on every hand.

For a nation so young, every American has reason to be proud of the labors of his countrymen in the field of natural history. Extended and laborious tours have been made, attended with exhausting fatigues, and the most patient investigations have been instituted, and many magnificent works have been published, and in many instances, with no adequate pecuniary rewards, in order to shed light upon this interesting study of mankind. The catalogue of our Naturalists and their books are increasing

every year, and the facilities for studying the natural history of our country are rapidly enlarging, so that no farmer need excuse himself for want of the proper aid in this respect.

Among the names of those who have devoted their lives to the various departments of natural history, including mammals, birds, reptiles, fishes, shells, crustaceans, insects, &c., we might mention Cuvier, Audobon, Agassiz, Michaux, Wilson, Harris and others, who have been and are still engaged in these labors, in their various departments.

Several of our State legislatures have made liberal appropriations for geological and zoological surveys, among these Massachusetts and New York stand foremost. The collections of the natural history of the State of New York in the Geological and Agricultural rooms in Albany is not only a credit to that great State, but an honor to the intelligence and liberality of her legislators in making the necessary appropriations to consummate the work, and is worthy of imitation by every State in the Union.

It is important that every farmer should possess a knowledge of the natural history of his country, to be familiar with the habits of the animals, insects and plants that are injurious to his crops, as well as with those that are reared and cultivated by him for the profits they return.

Many farmers and gardeners open an indiscriminate warfare upon the animals and birds, many of which, if they but understood their habits and characters, they would learn are among their best friends, and are doing more for the protection of their crops from the depredations of their real enemies than all other means they could employ besides. Moles which are regarded as doing mischief in plowing up the

fields and gardens, are among the friends of the gardener in destroying immense numbers of noxious grubs and beetles, in their subterranean wanderings; the toad, too, will devour in the course of a single day thousands of moths, flies and grubs that are committing constant depredations upon our fruits and garden vegetables. Among the greatest benefactors to the farmer and the gardener are the birds, which, while they cheer us with their sweet songs, destroy an endless number of pestiferous insects that would otherwise consume the largest share of the crops of the field and the garden; and yet, while they are engaged in this labor of love to us, the idle sportsman is allowed in his wantonness to exercise an indiscriminate slaughter among them. The legislature of every State, if true to the interests of the people, would make it a penalty of transportation for life for killing a single insect-eating bird.

While it is important for the farmer to be familiar with the natural history of the *vertebrates* or larger animals, and to possess some knowledge of the anatomical structure of his domestic animals so that he may understand the different diseases to which they are liable; should also study the natures and habits of thousands of insects that prey upon his crops, and in some seasons destroy more than half the labor of his hands.

*Wheat*, which stands at the head of field crops has more enemies among the minute insect tribes than any other farm crop. These insects are not natives of our country, but we believe have all been transported here by accident from foreign lands. The first of the class of insects under consideration is the *Hessian fly* whose depredations are not limited to any portion of our wheat growing country. Although a very diminutive insect it has been properly said, "that it is more formidable than an army of 20,000 Hessians would be."

History records it as a European insect, introduced into this country in August, 1776, by the Hessians, who landed on Staten Island, New York. It is said to have been brought in the straw used in packing. Its first appearance was in the wheat fields in that vicinity, and thence it spread over our entire country. It was totally unknown in this country, prior to the war of the Revolution. Its ravages soon began to excite the attention of farmers. Whole crops were destroyed by it. Learned societies and agricultural associations offered rewards for a knowledge of some means for its extirpation. The American Philosophical So-

ciety, in 1792, appointed a committee, consisting of Mr. Jefferson and other distinguished men of that day to collect and communicate materials for the natural history of the Hessian fly. So greatly was it dreaded in England, that in 1788 an order was issued by the government, prohibiting the entry of wheat from the United States into any of the ports of Great Britain. This order was based on ignorance of the habits of the insect, for it is not the grain that is affected by it, but the plant alone. It is supposed to be impossible to transport it in the grain.

Another insect of more recent introduction into the United States, and closely allied to that already referred to, may be regarded even a greater enemy to the wheat crop than the Hessian fly. It is the *wheat fly*, or more properly, the *wheat midge*. Its depredations have hardly yet become so universal, but where it has made its appearance its ravages, if possible, are more fatal to the crop. It seems to spread only by its own powers of locomotion, and the area embraced by it is annually widening, and unlike the Hessian fly, where it once gets a foothold into the soil its destruction to the wheat crop, (except the earliest ripening,) is uniformly every year. So general has this been the case on the once fertile fields of the Genesee valley and other portions of New York, that many of the farmers have abandoned its culture altogether.

There are other insects which attack the stored grains. One a small weevil (*Calandra remote punctati*), and a small moth (*Alucita Cerealella*). These with a knowledge of their habits are more easily subdued.

There are numerous other insects more or less injurious to Indian corn, grass, garden plants and vegetables, fruits, ornamental and forest trees, &c. Among these is the insect borer that has proved so disastrous to the locust. This is one of our best timber trees, which grows with the greatest luxuriance, when free from these attacks, and if a thorough knowledge of the habits of the insect were known, some means could be employed for its total extinction, and this valuable timber would prove one of the most profitable crops that could be grown on much of our now unoccupied land.

The various transformations to which insects are subject, are matters of great interest. To illustrate the changes through which that troublesome insect, the musquito, is subject, its first period being passed in the water, in the form resembling the fish, and afterwards being supplied with wings and becoming an insect of the air, are matters of wonder, but to behold a bird

of gorgeous plumage rise out of the earth, proceeding from a serpent-like worm that had buried itself and remained underground for several months or years, would be regarded as an extraordinary metamorphosis indeed, and yet the equivalent of this is occurring every day in summer. The butterfly, which sports in the air, and sips nectar from every flower, was once nothing but a repulsive, crawling caterpillar, which, entombing itself in the coffin or cocoon of its own construction, or changing into a chrysalis, came forth at last the beautiful object you now behold it, with its habits, food, appearance, organs, entirely changed; and the same is true of nearly all insects.

A most curious and striking fact connected with insect life is their cannibalism. Some species mercilessly devour their own offspring with savage ferocity while numerous varieties prey upon others of different species. The most remarkable of these are the ichneumon flies, which lay their eggs in caterpillars and other worms, by inserting their ovipositors through their skin into the flesh, the larvæ of which feed on the fatty juices of the living worms, and then undergo their transformation in the body and eat their way out as the perfect insect. Thousands of these may have been observed by our readers without comprehending their character.—One kind may be observed on the back of the tobacco worm and other similar varieties of worms and caterpillars, in the form of little white cocoons, the larvæ having passed to the period of maturity in the body of the worm and made their way out through the skin and span their winding sheet in which their bodies are enveloped, where they remain in the chrysalis state until transformed to the perfect insect, when they are ready again to deposit their eggs into the backs of other worms and bring forth another generation of their kind. Fifty to one hundred of these small cocoons may frequently be counted, secured endwise, upon the back of a single worm. These ultimately kill the worm upon which they feed, and thus prevent their infinite multiplication.

Nothing escapes the ruthless attacks of the ichneumons; they assault the spider in his web, the bee in his retreat; they find out the larvæ of the Hessian fly and destroy them by millions. The wheat midge, although so extremely small, also has its peculiar parasitic enemy, which in its native country keep its numbers so reduced that no very serious injury results from them, while in the United States, the midge, unfortunately, has been imported

from foreign countries, leaving its enemy behind, and hence fears may be entertained that it may be so extended over the country as to become so formidable as to lead to the total abandonment of the culture of wheat throughout the country. Another enemy to the numerous pests of the farm is found in the tiger-beetle, which preys on the whole insect race. The tiger beetle and the singular ant lion, and a host of other animals, are employed by Providence in keeping down a super-abundance of these little insects, which, if left unmolested, would prove the most formidable enemies to the farmer.

Another class of insects serve as nature's scavengers, which devour putrifying vegetable and animal substances. These appear in various forms and in great variety, adapted to this purpose in many ways. Linnaeus asserted that three flies of a certain species would devour a dead horse as quickly as a lion. Each will produce 20,000 grubs, which, in twenty-four hours, will devour so much food as to increase their bulk two hundred fold.

Another and the most wonderful class of insects, from whose labors result an important branch of commerce, are the silk worm, the honey bee and the cochineal.

Besides the practical benefits resulting to the farmer, from the study of Natural History, there is no science that affords more pleasure in its prosecution and none that can be followed out in a greater diversity of forms. Take, for instance, that important branch of zoology just under contemplation—the curious form and habits of insects, the arrangement and character of their eyes, their motions, food, societies, habitations, eggs, affection for their young, injuries, benefits, propagation, geographical distribution, infinite numbers, inexhaustible variety, unequalled beauty, which the highest skill of the painter cannot imitate, their stratagems in pursuit of their prey, their inconceivable industry, and many other wonderful phenomena connected with their character.

So wonderful and varied are their instincts that it has afforded grounds for much speculation among philosophers. Some have defined instinct to be identical with reason in man.—Des Cartes maintained that animals are mere machines. Some have supposed that the brain of a bee or spider is impressed at its birth with certain geometrical figures, according to which models its works are constructed. Buffon refers the instinct of societies of insects to the circumstance of a great number of individuals be-

ing brought into existence at the same time, all acting with equal force, and obliged, by the similarity of their structure, and the conformity of their movements, to perform, each the same movements in the same place, whence results a regular, well proportioned and symmetrical structure. Addison and some others have thought that instinct is an immediate and constant impulse of the Deity.

We introduce these various opinions of wise men and philosophers, not because we believe that any of them have solved the problem of what we term instinct, but to show that the study of the character, habits and organisms of these minute objects of creation are no more beneath the attention and study of the greatest men of all ages than are the most stupendous creations of Deity.

#### ANALOGY BETWEEN MEDICAL AND AGRICULTURAL EDUCATION.

The physician and the surgeon, to qualify them for their professions of preserving life, are required to study the anatomy of the human frame, the functions of every part of the system, and the nature and quality of whatever is requisite to administer to its wants, or to avert or remove the ills which it is heir to.—Without this knowledge he can but *guess* at the cause or seat of the disease, and of course his prescriptions must be questionable, and often hazardous. A knowledge of these matters cannot be acquired by bare practice. It must be obtained from the teachings of ages—in schools of medical science—in the dissecting-room.—Hence the law of every civilized people requires in the pupil this preliminary study, before he is permitted to practice the art professionally.—And no intelligent man, who justly appreciates the necessity of the science to perfect the art, likes to trust his health and his life, in the hands of a pretender, who knows nothing of the great principles of the business which he pretends to practice.

So with farm husbandry. It embraces principles of science, upon which good modes of practice must necessarily be based; and without a knowledge of these principles, the labors of the farmer, like the prescription of the quack, must be either *guesswork*, or confined to the routine in which he has been instructed. His soil and his animals are liable to sterility and disease which he is illy qualified to remedy. Unless he knows something of the composition of the one and the anatomy of the other, as branches of natural science, he is not

likely to discover the true cause of an evil, nor to apply to it the right remedy. We will give a single illustration in the alternation of farm crops. It is now universally admitted, that the alternation of crops is highly conducive to good husbandry. But why is it so? Science, which expounds the laws of the Creator, in regard to inanimate matter, not only furnishes a satisfactory answer to the question, but suggests the classes of farm crops, and the order of succession that ought to alternate and follow each other. Again, gypsum, lime, marl and ashes are beneficially applied to some soils, to some crops, and in some seasons, while they are not beneficial upon other soils, to other crops, or in other seasons. Science can alone explain these seeming contradictions. In a school of scientific and practical agriculture, in which a series of experiments should be continually going on, these problems would easily be solved; rules of practice would be laid down; the results, and the natural causes of these results, would be explained, and the farming community, and every member thereof who is willing to admit that the dull routine of the practice of his father in farming, is susceptible of improvement, or who has a spark of ambition to improve his practice and condition, would profit by the discovery. In this, agriculture differs from most other professions. While in other professions, the benefits of improvement may be monopolized by an individual or a small number, improvements in husbandry are accessible to all who are not too conceited to learn, or too indolent to practice, from the examples of improvement which are every day making around them.

The result of the analogy which we have drawn between medical and agricultural education, is this—that science is equally beneficial to both; that while the one is destined to preserve and prolong life, the other is charged with nourishing it, and of multiplying its comforts and enjoyments; and that both are, consequently entitled to the protecting care of an enlightened community and encouragement and promotion by legislative bodies.

We feel gratified and encouraged to know that the importance of educating the rising generation of farmers in everything that pertains to agricultural science is beginning to be seen and felt by our most intelligent and influential citizens and legislators, and we hope and trust the time is not far distant when every State can at least boast of as many schools and colleges for the education of farmers as there are for



those intended for other professions. Surely the farmer's profession is more important than any other, and the number engaged in it is by far greater than all others combined.

### THE VINEGAR PLANT.

It is claimed by many that this curious production belongs to the vegetable kingdom. Whether this is true or not, we hardly know where else to place it. Like the mushroom, it belongs to the lowest order of organization, and may, we think, be regarded as a kind of fungus. It possesses the power of re-production to a limited extent, governed in some degree by the temperature, but always requiring a degree of heat above 65.

The vinegar plant is somewhat soft and flexible, with a firm and springy consistence resembling the substance known to accumulate in a vessel containing good vinegar, as "mother," but of a more compact and regularly defined formation. When separated from its parent, this plant is about six inches in diameter and half an inch thick. This is usually placed in an open earthen jar of two or three gallons' capacity, with about a gallon and a half of water sweetened with about one pint of pure molasses. It is important that the molasses be good and unchanged by age. After standing four or five weeks in warm weather this liquid will become vinegar of an excellent quality—not only possessing all the body, but all the acid pungency belonging to the best quality of cider vinegar. The plant, in this position, gradually expands horizontally to the full dimensions of the jar which contains it, while it increases in thickness by a succession of layers of smaller dimensions. These layers are about half an inch in thickness, and are united to the parent plant by tender filaments, which admit of easy separation, by simply passing the hand between them.

To what extent this plant would expand if placed in a larger vessel, we have never seen determined; but by a multiplication of the plants placed in more capacious vessels, vinegar of the best quality can no doubt be made in large quantities. The plant should never be allowed to freeze. The old plants, after being used a few months, should be thrown out and new ones substituted.

We are now daily partaking of vinegar made as above described, and we have never tasted better. To suit some tastes it requires to be weakened by adding water when used, and it is no doubt more healthy than when used in full strength.

### WHEAT GROWING.

The numerous casualties to which wheat in late years has been liable in almost every section of the country, renders it necessary that more care, attention and discrimination be bestowed upon its culture than upon any other of our staple crops. Every year seems to multiply the enemies to this crop, and render a remunerating return more uncertain; hence the science and skill of the husbandman should be exercised to the fullest extent to mitigate the evils. Wheat is the universal bread material of the world, and unless science shall point out some means by which a more uniform and certain return may be obtained, the day is not far distant when a full supply can no longer be produced.

The Hessian fly has become a general enemy to the wheat crop, but much can be done to avert its attacks by observing the proper time of sowing the seed. It is the early sown wheat that is attacked by the fly. If the sowing is deferred until after the insect has appeared, there is little danger from it. This may be done and still allow the crop sufficient time to become well rooted before winter sets in. We can fix no precise date for sowing the seed that will apply to all sections, but the experience of the farmer should suggest the proper time for his particular locality. When wheat is attacked by this insect its mischief is not confined to the fall, but it remains during winter between the leaf and the main body of the plant ready to continue its work of destruction until its period of full maturity in the spring. Little injury will be sustained from this insect if the proper time of sowing the seed is observed.

The next serious difficulty in the way of wheat growing is its liability to winter kill. The injury from this cause depends, in a great degree, upon the character and mechanical condition of the soil. Wheat, upon any soil that retains an undue quantity of water is subject to the greatest injury from this cause. The only remedy for this evil upon soil of this character is thorough drainage, an improvement that is destined to work a wonderful revolution in American farming.

Of all the insect depredations to which wheat is subject, the *midge* is the most formidable. It is scarcely thirty years since this enemy first made its appearance in this country, and for a long time its depredations were confined to narrow limits; it has since spread over New York, portions of Ohio, Indiana and other States, and it will not be many years before it

will have made its appearance over every portion of the wheat-growing country. It is multiplied in immense numbers, and we know of no means by which its rapid increase can be checked. It is most destructive in those varieties of wheat which are characterized by the thinnest chaff. The eggs being inserted through the chaff into the forming grain soon after it has gone out of blossom. In fields of wheat that come forward a few days earlier than the crop generally, the midge will be found only in the lower and later heads, that happen to be soft just at the time the insect is ready to lay its eggs; this fact has suggested to some of the best farmers the importance of procuring those kinds of wheat that mature the earliest, so that it may become hard before the insect merges from its winter quarters. Wheat eight or ten days in advance of the ordinary period of ripening often entirely escapes injury from this insect. Mr. John Johnston, of Geneva, N. Y., secures from half to two-thirds of a crop of wheat by having his wheat ripen a few days earlier than his neighbors, who often lose their entire crop. This advantage he derives by draining his soil, and the application of salt and other manures, by which means his crop is advanced several days. In addition to this he sows the best early varieties of wheat he can procure.

There are other casualties to which wheat is liable, but the most formidable of which we have not before alluded to, is the rust. This, we believe, is entirely owing to the state of the weather at the time the grains are filling. Wet, warm, sultry weather is the fruitful cause of this malady. Early maturity is the only means by which this evil can be avoided.

Early maturity, then, is a matter of the first importance as a means of avoiding the evil effects of most of these causes. To secure this, the land must first be put in the best possible order before sowing. Where land is wet, nothing adds more to the early maturity of any crop than complete draining. No soil can be warm and suitable for any growing crop that is saturated with water. Warming and stimulating manures afford additional means to promote early maturity. Another, and the most important consideration of all, is to secure early varieties for seed. Like all other varieties of grain, there is a marked difference in the period of maturity of the different kinds now cultivated among us, and if the proper means were employed, new varieties might be produced that would ripen earlier than any of the

kinds now cultivated. Some of the best varieties of wheat now known among us have been obtained by selecting the largest early matured heads that showed marks of superiority over the general crop.

### SOWING CLOVER SEED.

Some of our "new subscribers," through Mr. J. M. Mitchell, of Mo., request us to give the best method of managing clover for the improvement of land—when it should be sown, whether alone or with other crops—manner of preparing the ground, &c.

We have frequently, in former numbers, given full directions upon the subjects requested by our correspondent, but as our subscription list is constantly receiving new acquisitions of names of persons who have not been in possession of our back volumes, we will briefly answer the foregoing queries.

Early spring is the proper time for sowing clover seed. It should either be sown upon winter grain or upon ground on which spring grain has been sown—that is, with spring wheat, oats or barley. If sown upon winter grain, the most favorable time is just after a light snow in March, or it may be sown at any time during this month, or as late as the first days in April will answer, but in favorable seasons it is not well to defer the sowing later than the 15th of March. When sown with spring grain, the clover seed should be cast upon the fresh stirred soil immediately after the last harrowing-in of the seed grain. Early sowing of these grains, say as soon as the ground is in a suitable condition to work in the spring, is desirable both for the grain and the clover seed; if the ground is light and the sowing is done early, no covering will be needed; if the ground is heavy, or should a rain intervene after the last harrowing, and before the clover seed is sown, it is well to run a light bush over it. When sown upon winter grain the crop would be greatly improved by running a light, fine-toothed harrow over the grain just before sowing the clover seed. The ordinary preparation of the soil for the grain crops is generally considered all that is necessary for the clover seed. In regard to the quantity of clover seed necessary, practice among farmers differs. We have never applied less than one bushel of seed to six acres. Some regard that quantity to eight acres sufficient, but the former quantity will be found better economy.

### KILLED BY LIGHTNING--WORTHLESS LIGHTNING RODS.

"On Saturday afternoon, during a violent thunder storm, the dwelling house of Mr. Joseph Banks was struck by lightning, and his wife was instantly killed.

"The house was protected by a lightning rod, but the rod must have been put up by persons who knew very little about its proper construction. The fluid passed down the rod to the first story, where it left the rod and followed the eave trough the whole length of the building, and turned the corner, and passed along the end of the house, following the cross beams and tearing off the siding. As it passed over the door, a part of the fluid ran down the door post and Mrs. Banks, standing in the doorway at the time was instantly killed.

"In examining the lightning rod, it was noticed that the fluid left the rod where the two pieces were joined together. It was not connected by a perfect link—a hook in the form of a right angle passed into an eye, and extended some two inches beyond in the direction of the wood work. Of course the fluid would have a tendency to go off at this point and enter the nearest conducting substance. It is to be feared that too many lightning rods are put up without regard to safety, and instead of serving as a protection from the subtle fluid, are a source of danger."

The above we find in a late number of the *New York Observer*, and is one of hundreds of similar instances that occur in various portions of the country, where buildings and the lives of persons are thrown into increased danger in consequence of the application to buildings, of imperfect lightning rods, almost everywhere to be found, the work of ignorant pretenders.

This rod was one upon the plan introduced and patented by Quimby, and as they are usually put up of iron rods, not exceeding one-half inch square or diameter, a building thus surmounted is in far greater danger of lightning stroke than if no rod had been applied. Within ten miles of where we now write, within four years, we have heard of no less than five buildings that have been destroyed, or more or less injured by lightning, each of which had upon it one of Spratt's patent lightning rods, (one of them was furnished with two,) while it is probable that the most, or all of them, would have been safe to this day, had no rods been placed upon them. These rods were but half an inch in diameter, and united at the joints by

composition nuts, about three quarters of an inch in diameter, into which each end of the rod was screwed. In every instance of explosion referred to, it occurred at one of these joints.

The patents that have been granted for pretended improvements on lightning rods are indirectly doing vast injury to the American public. It is too generally the case that the very name of patent conveys the false idea of improvement, and the public, through the influence of expert and smooth tongued agents are too frequently duped thereby, much to their own injury. Hardly one in ten of the patents that are granted at the United States patent office ever practically prove worth the parchment upon which they are written. And in no single instance where patents have been granted on lightning rods do they embrace the slightest improvement upon the old rod first introduced by Franklin. All these pretended improvements are worse than useless.

In the volume of the *Valley Farmer* for 1857 we discussed the subject of electricity and lightning rods fully, and described all the requisites necessary for a perfect and safe lightning rod.

A rod of iron, one inch in diameter, (three quarters of an inch may answer,) properly united with lap joints, three inches long, extending into the ground so as to always be surrounded by moist earth, or terminating in a well or cistern, with the top extending above the building according to the rule usually given, may be considered free from any danger from lightning in all ordinary storms. But with the trifling half inch wires that are now hawked about the country, and united with brass nuts, or with hook and point, according to the Quimby plan, with the best glass insulators that have ever been made, at best, are only so many agencies inviting this subtle and powerful fluid to the destruction of life and property.

All philosophical experiments have proved that electricity is subject to the perfect control of man, and so may the lightnings of heaven be, if only means corresponding with its magnitude be employed to direct it. As well might one attempt to convey a volume of water six inches in diameter through a one inch tube, as to expect the quantity of electricity that frequently explodes in from the clouds to be conveyed safely to the earth by a half inch iron rod. It is better that buildings should go without lightning rods than to employ these trifling conductors.

### FARMING AND HALF FARMING.

We have known people ambitious to make money, who would spare no labors to increase their income, and when they had secured it, would spend it to no purpose; waste it, get rid of it they scarcely knew how, and have nothing to show for it. They were good to make money, but could not keep or use it well. The only good they could get of their money was the doubtful good of having it pass through their hands. There are many people of this stamp. They can get business and do it, can earn great wages, drive and push through any amount of toil, make long and close calculations, talk largely and well enough about business, but cannot increase their own capital. Their purse will not hold money. It leaks. It seems like the fabled pit, without a bottom, or like the miller's dam, whether it rained much or little, would hold no water. Or more likely, they have no purse. Their money burns their pockets and hands. They have it spent before it is got, or plans on hand for its disposal. Much like this class of people are many farmers.— They can raise good crops, but cannot make them pay. They neglect their fences, and the cattle break in just before harvest; or if they get a good crop they have no place to secure it. Fine fields of hay and grain are gathered, but there are no barns and granaries to keep them. The fruit trees yield well, but there are no means for preserving the fruit, and it goes to waste. The root crops are good, but the frost and the winter destroy them, because they cannot bear everything. The farming implements rot more than they wear, because the rain and sun are ever pelting and scorching them. The cows give good milk, but the want of dairy appliances makes the milk of but little value.— The pigs are in the corn-crib; the sheep are in the garden; the kitchen has no wood, but lives from hand to mouth; the house has no cellar; the water is far away. Everything works the hard way. There is much done but little saved. When spring comes everything is gone. Seeds of all kinds must be bought; the rotten utensils replaced by new; the broken down fences made over; the peeled and browsed fruit trees replaced by new and young ones, and a world of labor spent to get the farm into working order again. So it goes year after year. Much is done, but little improvement made. And all the difficulty lies in a want of order and taste in the style of farming. No man of order or taste will see gates hanging on one hinge, fences reeling, everything looking like old

chaos or young ruin. Men of taste will husband well their farms. And men of real farming skill will have arrangements for making the most of all they get, for saving or marketing, that nothing be lost. It is farmers' losses that keeps them back. And the most of their losses are by their own negligence or want of skill. There is much half-farming. They waste a great deal of labor and time. The art of keeping everything in order lies in having a place for everything, and putting everything in its place when used; in making repairs when needed; in always putting in all odd moments of time, rainy days, &c., in making improvements, arranging conveniences, and in getting ready for the seasons of active labor. Let all half-farmers mend their ways as fast as possible, so will they mend their fortunes and all their temporal interests.

### FARMERS' SONS.

No question is more important than this: for what shall we prepare our sons? We suppose it will be admitted by all that every son of every man should be prepared for something, that he may act manfully his part on life's great field of duty. As a general rule, every youth should be prepared by education and practice for the business or profession for which his peculiar talents best qualify him.— Some are born mechanics, some artists, some traders; a rare few are born poets and orators; many with ability for rare scholarship. Others, again, are born farmers. They have a natural love for rural pursuits, for fields, woods, horses, cattle, the use of tools, and perceive readily the relation of soils to plants, of plants to animals, of animals to man. Still, others there are, and a large number is this, who are born with a kind of even balance of ability, and can learn to do anything well to which they may devote their time and energies. It is clear that the members of this class have a sort of choice in their pursuit. They can follow where judgment dictates, and be successful, useful and happy. It is for parents to study the natural talents of their children and early apprentice them to the pursuits for which they are best constituted; but there will always be a large number that can readily learn any trade, profession or calling.

Now we hold that farmers should prepare their sons largely for their own profession.— Now and then one, of course, must learn a trade, practice law or medicine, or preach the



Gospel, but the large majority should be educated for farmers. Their education should be good at schools, and if possible at agricultural schools. They should have well cultivated minds, capable of writing essays, books, making speeches, doing business, and what is better, thinking wisely on all the great questions that concern the well being of humanity. When middle life shall come, they must lead, if they are capable, in all the affairs of social life and of the State. They must be qualified for posts of honor by a liberal education. The schools, the governments, the sciences, arts, the press and the churches are soon to come into their hands. They must be prepared for such grand trusts. But beyond all this, they need both a scientific and practical knowledge of farming in its various departments. This they must acquire chiefly at home, from agricultural books and papers and a practical application of agricultural principles in the working of their father's farms.

Farmers are too prone to encourage their sons to pursue other callings; and their sons are too apt to think that some other calling is better for them. In three-fourths of the cases it is wrong for farmers' sons to leave the farm. They generally regret it and long for the independence and quiet of the farmer's life. Indeed, it is a fact, that men of all professions crave the farmer's peaceful life before they half live out their days in the hot rivalry of the other professions. Often and often do we hear the remark from the denizens of city life, "Oh! that I had a little farm in the country, cultivated and stocked; I would not drudge here amidst these embarrassing difficulties." Let the subject be pondered well among the farmers and their sons, and let nine-tenths of the young men of the farm honor their *alma mater* by remaining true to the noble profession of agriculture.

#### SAVING SEEDS.

Many farmers and gardeners neglect to save seeds for the Spring use, partly from the pressure of business, partly from negligence, partly from forgetfulness. Now while seeds are ripening we will remind them of next year's wants. Save your best specimens, keep them dry and away from vermin marauders. The seed for the coming spring should be saved at harvest time, of every crop. Every farmer should have a place for preserving his seed. Buying seed is expensive and always a doubtful experiment. Raise and save your own. This is the farmer's true policy.

#### PLANTING WHEAT IN HILLS—SUCCESSFUL EXPERIMENT.

A correspondent of the New York *Tribune*, writing from Rochester, Indiana, gives the following as the result of an experiment in this mode of cultivating wheat:

I planted, last fall, five rows of wheat, with spaces between different rows, of three feet, two feet, and eighteen inches. This was kept clean with the hoe, and the product is as follows: Average number of stalks from each seed, nearly 32; number of grains to the head, 72 to 100.

Thus if we count less than really grew, say 30 stalks from each grain of seed, and 72 the fewest number of grains found in any one head,—we get at the rate of 2,000 fold, and from that to 3,200 counting the highest yield. From the year 1845 to 1855, the average of wheat in this and parts of the adjoining counties, according to my record, was less than eight bushels to the acre, the very best being 35 bushels. Indian corn sown broadcast at the rate of from one to two bushels will yield a larger average, but when planted in our usual way produces from 30 to 100 bushels to the acre.

My object in writing this is to bring the facts to the notice of agriculturists, and to induce as many as possible to try the experiment on as much land as they are willing to experiment with. I hope those wishing to test the matter will get the wheat in before the last of August. I lay off the ground two feet each way, and put four grains to each hill, and keep clean till next harvest. It must be put in early—no matter how soon after harvest. This will give 30 stalks to the square foot, and 104,089,600 grains to the acre; which, allowing 898,560 grains to the bushel, gives nearly 116 bushels to the acre. This estimate is a correct one, based upon actual facts, and although it looks like a wild calculation, will, I think, prove so nearly correct as to help reform our present slovenly and extravagant mode of wheat culture. The quantity of seed required to plant an acre is only a trifle over five pounds, if put in as above described. Where my wheat stood in rows, three feet apart, when ripe the heads appeared nearly as thick together as in a field of broadcast wheat, and, instead of being from two to three inches in length, were from six to seven.

CHARLES BRACKETT.

The hints contained in the foregoing correspondence are worthy of consideration, and we publish them with the hope that numbers of our readers may be induced to repeat similar experiments. From the days of Jethro Tull to the present, English farmers have practiced drilling or dibbling in their seed wheat, with the view of giving it at least a partial cultivation. It need not be expected that in a country where land is as cheap and labor as dear as in this country, it would be good policy to carry out the practices of the British farmers, yet it should be remembered that our mode of farm-

ing is susceptible of vast improvement, and the practice of our neighbors across the water may suggest many hints that may lead to these improvements. In the absence of cheap labor, the ingenuity of our mechanics may suggest labor saving machines that will accomplish what otherwise would be done by hand. We have before intimated that if wheat was drilled in such a manner that slight cultivation could be given it by horse power, the crop could be greatly increased without a corresponding cost for the extra labor.

We do not doubt the extraordinary product of 2,000 fold, as stated by Mr. Brackett, and this certainly should warrant some of our Western farmers who make use of the wheat drill, in making the simple trial of cultivating a small patch in one corner of the field with the hand hoe and see what the result would be. A slight dressing this fall, and again once or twice next spring, would, we have no doubt, produce astonishing results, which would lead to the introduction of horse hoes calculated to follow the line of the drills, mellowing up the ground, destroying the grass and weeds, and more than doubling the crop.

Let the experiment be made on a small scale, and give the public the result.

#### NEVER DESPOND.

It is a common saying in cities and towns that farmers are always complaining, always finding fault with the weather, the season, the times or the markets, and prophesying poor crops and low prices. Whether there is truth in this or not, we do not say. Farmers may be no more prone to find fault with Providence and the times than other people, but it is true that they are having many perplexities this season. Between rain and shine, cold and heat, they have not a little to try their patience. Yet their motto should always be, *never despond*. It is an old saying that "misery loves company." If they starve this year all the rest of the world will starve with them. If times are hard with them they will be with every body else. We all get our bread and butter of the farmer.—When times are hard he is best off of any man. He can live and if he chooses help others to live. The farmer, therefore, should be the last to despond. His heart should always be strong and full of hope. The years are all his. If one fails another will soon be along. If one crop is cut off another will soon follow with abundance. Let him "possess his soul in patience" and in faith "Learn to labor and to wait." \*

#### CITY AND COUNTRY.

We have a word for the young men of the country, and we speak from what we do know. There is a great desire among country young men to get into the city. They grow tired of the labor and care of the farm, and imagine that there is real joy in the bustle of city life. They look at their work-day clothes, and contrast them with the apparel of city clerks, and they long for a retreat from plainness to gaiety. They contrast their daily work with the work of the young men of the city, and theirs seems drudgery in comparison. And so they long for a more showy and active life, amid the hum of city business.

In all this they greatly err; if city life is more showy, it is less solid; if it is more active, it is less steady and more perplexing; if its work is lighter, it is more annoying and wearying; if it taxes the muscles less, it taxes the nerves more; if it is gayer, it is more dangerous; if some city people are richer, some are poorer; if there is more luxury in the city, there is more disease, degradation and crime.—Plenty may abound with the few, but poverty with the many. The worst men and women are city bred. The meanest, the poorest, the vilest of the human kind cluster in cities to carry on their trades of vice. If a young man can earn more in the city, he can spend more, will be tempted more. Half the young men that fail pecuniarily and morally in the city would be successful and respectable in the country.—It takes more energy and ability to rise and sustain oneself in the city than in the country. It takes more money to do business and more ability to carry it on. The want of ability leads thousands to overreach, cheat, defraud, lie, steal, forge and rob. Men equal to their positions in the city, are honorable men. The country has no more noble men. The ordinary men of a city are often driven to doubtful expedients to keep their heads above water, or their business from bankruptcy. They often think to save their business by rendering their characters bankrupt. City life is a fierce struggle. It has a few advantages, but many dangers. Let the young men of the country learn the facts, and stay where they are. Keep out of the city. It is the great folly of men that they cluster in such crowds in the large cities to prey upon each other. Let them spread themselves over the great country in settlements, clusters, and villages, then they may have the advantages of society without the trials and dangers of the city. \*

### SOWING TIMOTHY SEED.

One of the great errors among American farmers is to defer certain kinds of work until the latest possible period, and this remark applies particularly to seeding meadow land; the too general practice is to put off this work until late in the spring, and then to sow the seed upon oats or winter grain. To insure a good stand of timothy, the seed should be sown in the fall unaccompanied with any other crop. For a profitable meadow, no crop requires a more thorough preparation of the soil; this should be done by at least two good plowings, rolling and harrowing. If the season is wet the ground, after it has been rolled, should be harrowed, when the seed may be sown without covering. With a favorable season more seed will vegetate and grow if left to be covered with the next rain, than if covered with the harrow or a bush; much grass seed is entirely lost by being covered too deep. If the ground is of a compact, heavy character, or if rain is not expected, a light, fine toothed harrow may be passed over the ground after the seed has been sown, but on a loose, open soil, it is better not to harrow in the seed at all.

**Quantity of Seed per Acre.**—The quantity of timothy seed allowed by some farmers is one gallon to the acre; this is not enough; six to eight quarts is none too much, and many eastern farmers sow twice this quantity; if the grass does not occupy the ground, weeds surely will, but where there is an abundance of seed sown the quality of hay is much finer and better. If a bushel of seed is sown upon eight or ten acres of land, as it is the custom of many, the hay is too coarse and woody to be palatable to either cattle or horses.

**Time of Sowing.**—If favorable rains occur the middle of the present month is the most suitable period for sowing the seed, but any time during the month will answer, and with a favorable fall, as late as the tenth of October has been found to answer.

A writer in the *Southern Homestead*, dating at Ritchie Court House, Va., after remarking that September is a better time to sow timothy seed than March or April, says February is a better time than either, and that in several years practice he has never failed to have his ground well seeded. It will stand the drouth better in spring or summer than if sowed in the fall. His practice is to thoroughly prepare his land in the fall and let it lay until January or February and sow the seed upon the snow.

This no doubt is better than sowing in March

or April, when dry weather so frequently follows as to cause the loss of a large proportion of the young plants. If sown in the latter part of winter the seed is ready to start with the first warm days, and the plants will get well rooted before the dry, hot weather of spring comes on, yet we think the fall is greatly to be preferred, because the fall rains will give the plants such a start as to afford a good crop of grass for the following season's cutting.

(Written for the Valley Farmer.)

### GYPSUM.

Among the most common and most important fertilizers, one is greatly neglected in our western States. I mean Gypsum, or plaster of Paris.

When the cultivation of the red clover was first introduced into Germany, some seventy or eighty years ago, it produced an entire revolution in agriculture, enabling the farmer to increase his stock of cattle by 100 per cent, thereby to double his stable manure, and consequently considerably heighten the fertility of his fields. But it was soon found out that on the same piece of land clover grew best the first time, less good the second time—even after an intermission of several years, and decreasing in growth in the same ratio at every new trial, so much, that already some farmers thought of abandoning clover raising at all. Then gypsum came into use and the effect was wonderful; applied to clover, it caused a luxuriant growth of it, though raised on the same field after the space of six (or still better) nine years—the growth of grass was also greatly promoted by it, chiefly in connection with proper irrigation, and so was that of the field pea, (an important vegetable in countries unfit for maize) even of wheat, &c. Gypsum has since become a usual and indispensable article in the old countries, brought to and sold on cheap terms, in every vicinity.

The constituents of gypsum are lime and sulphuric acid, which ingredients are found in most of our soils to a greater or more limited extent, but exhausted sooner or later by the habitual removal from the ground of the crops into whose stems, blades and seeds they have entered. Most, perhaps all plants, want lime for their growth, and clover, turnips, cabbage, &c., require sulphur to a considerable amount. The long roots of the clover will fetch the hidden sulphur from some depth, and therefore the first growth is generally successful, but the natural store is soon used up, and as it will not, like carbonic acid, be restored from the air or rain, it must be artificially replaced from those inexhaustible stores which nature has accumulated in certain localities.

How carefully soever we may tend our fields, using green manure and stable manure, by the constant cropping the soil must be deteriorated, since we never give back as much as we take away, and since—as the turbulent streams of the flowing rain sufficiently show—the washing off never ceases.

Uncultivated ground on which the whole vegetable growth remains to decay, will rather gain,

as nothing is lost, and rain, snow and the atmosphere always add something to the primitive productiveness; our fields, however, if we calculate on an abundant yield for all time to come, require more than being merely clovered, or pastured, or even manured in the common manner. They require the restoration of the wasted potash, nitrate, salt, lime, phosphorus and sulphur. For that end we must employ, besides the means named, ashes, bone-dust, guano and those immense layers and collections of fertilizing minerals to which we may have access.

Now, as said before, gypsum is of great importance; and the nearer at hand the better.—Its price in the West is at present by far too high for general use. Is there none to be found in our own State? We should search after it with more ardor than people do after gold mines, for gold we will have enough to do us (or even to make us miserable) for all time to come, but it may be justly doubted if, by the continuance of the present wasting system, after the elapse of centuries, enough bread can be raised to feed the then many hundred times multiplied inhabitants of this country. Our geologists, chemists and capitalists ought to look out for gypsum in Missouri.

F. M.

Warren Co., Mo.

[Written for the Valley Farmer.]

#### AGRICULTURE IN TEXAS.

EDITORS OF THE VALLEY FARMER:—Being a subscriber to your most valuable journal, I have concluded to give your readers some account of our country, as adapted to farming purposes. I have been a resident here for over nine years, and am well acquainted with the country in Northern Texas. I was formerly a resident of Missouri. We are every year having quite large accessions to our population from that State, and when our country shall be better known, our accessions, not only from Missouri, but from all the Western States, will be very great.

Our climate is very mild, so much so that the best of pasturage is afforded to our stock all winter. Farmers here do not labor hard half of the summer to get hay and oats and corn enough to carry their stock through the winter. Stock come out far better on our winter pasturage than when fed on hay and corn all winter. It is true that once in five or six years a storm may come upon us in winter, so that we may have to feed a week or two, but not one farmer in fifty makes any provision for feeding stock in winter. Our country, it is true, is sparsely settled as yet, but every year it is filling up. There are excellent ranges here for stock growing. Indeed, in this respect, there is no part of the Union that affords as fine facilities as Texas. Stock can be raised here for a mere song. They feed themselves till they are ready for sale. They are all the time growing into money. It is true, stock is low, but every year it is becoming higher.—Drovers are beginning to come here and buy our stock and drive it to the North, where they sell it at large profits. For raising mules, cat-

tle and sheep, this is just the country. If the farmer would raise these on a large scale, he might every two or three years have a drove of his own to take North; or several farmers might unite their stock and drive them to some of the Northern States.

It is true that portions of Texas have been affected by drouth somewhat, but what part of the United States has not? Texas, in this respect, has not suffered more than other States.

Wheat, corn, oats, &c., yield a fair crop here. I believe by deep plowing, and especially by sub-soil plowing, that even in seasons of drouth, we could raise crops that would compare very favorably with those raised at the North in dry seasons.

This is a great country for fruit. I have never seen such fine fruit as we have here.—Peaches grow to great size and possess the richest flavor. Figs do admirably here. Apples do very well, though perhaps they do not succeed as well as at the North. We have great faith, however, that we shall find varieties adapted to our soil and climate, that will do as well here as at the North. Pears, however, do admirably here. I have never seen them bearing as finely as in Texas. The climate seems peculiarly adapted to the pear. Both Standards and Dwarfs, so far as my observation has extended, could not be desired to succeed better. Quinces also succeed finely. Watermelons grow to great size, and no one who has not enjoyed a watermelon grown in the Southern climate, can appreciate what a watermelon is. There is something in its flavor so delicious as to be indistinguishable.

There is no country so desirable for the emigrant as Texas—where he can live so easily—obtain lands so cheaply—make as great profits, especially if he turns his attention to stock-raising. The climate is agreeable and healthy, the country is fast settling with an enterprising people, and if those who are in search of new homes would come and examine for themselves, I am satisfied that nine in every ten would locate here. Railroads are already constructed in several portions of the State, and others are in course of construction. Our people are beginning to feel a little of the spirit of agricultural improvement which is so rapidly extending throughout the Union, and I hope the time is not distant when Texas—the Lone Star—will not be behind any of her sister States.—And I am pleased to see, Messrs. Editors, that the circulation of your valuable journal is constantly on the increase in this State, and if it were patronized by every farmer and planter in Texas, it would be the means of doing a great good to our people—add to the amount of our productions, preserve, in a great measure, our lands from improper and ruinous cultivation, foster and improve rural taste, and in all respects have a most beneficial influence upon our population. I am one of those who believe that farmers cannot afford to do without an agricultural paper, and if I am ever compelled to retrench my expenses, it will be in some other quarter than withholding my subscription. The mind is the last thing that



should be made to suffer. I feel that I have already taken up too much space in your columns.  
Yours, &c., TEXAN.

### PLASTER OF PARIS, GYPSUM AND SULPHATE OF LIME.

In common parlance these names mean one and the same thing; but strictly speaking, there is quite a difference between plaster of Paris and gypsum. One hundred pounds of pure gypsum, as taken from the quarry, contain in round numbers, nearly 46 lbs of sulphuric acid, (oil of vitriol,) 33 lbs of lime, and 21 lbs. of water. There is in the oil of vitriol, about 18 lbs of sulphur.

If an 100 lbs. of gypsum is heated to a certain point, its water of crystallization will be expelled by the heating process, and the 100 lbs. of gypsum is reduced to 79 lbs. of plaster of Paris. It has then acquired the property of "setting," when made into a paste or mortar, and is largely used for stucco work, and casts, images, toys, &c., that are hawked about the cities and in various parts of the country by Italians and other itinerants. From the fact that plaster of Paris possesses this setting or hardening property, it may be less efficient for agricultural uses than the finely ground unburned gypsum.

It is well known that gypsum produces a very favorable and marked action upon the growth of many of our cultivated plants on some soils, and of its entire failure to exhibit any apparent effect on the growth of the same kinds of plants on other differently constituted soils.

There have been a great variety of theories advanced by scientific and practical men, to account for the different results following the application of a bushel or two per acre of finely ground gypsum. Why the same varieties of plants are not always benefited on all soils, by the use of gypsum, may not yet be accurately known. But still we think a tolerable plausible reason may be assigned therefor.

From a long course of observation, we are led to believe that the greatest action of gypsum on plants is to be attributed to its *sulphur*. Though doubtless, upon the decomposition of the gypsum in the soil, or in the tissues of the plant, its lime may have its effect. Also the acid may have some effect upon liberating from the earthy portions of the soil, potash, soda, &c., and in some measure the ammonia of the manure, and that of the atmosphere may be fixed by the acid, in its being changed to the sulphate of ammonia. But yet we think it is the sulphur that plays the most conspicuous part in the application of gypsum to the soil.

Doubtless, for good and wise reasons, sulphur is one of the essential mineral constituents of both vegetable and animal structures. The source from whence plants obtain their sulphur is not from the atmosphere, but they derive it directly from the soil, and the animal derives its sulphur from the plants, seeds, roots, tubers, fruits, grains, &c., upon which it subsists, for sulphur is found in appreciable quantities in the blood, brain, muscle, hair,

nails, hoofs and horns of animals, and in the eggs of all varieties of birds, fowls, &c.

Geologists tell us that all soils have been derived from rocks, but rocks differ in their mineral and chemical composition, consequently different kinds of soil result from the disintegration and decomposition of different rocks. Had there in past ages been no extensive distribution and commingling of the *debris* of the rocks of the globe, we should probably find more distinctly marked soils than we now do. But powerful and resistless currents of water have more than once swept over this globe, bearing along with an irresistible force, almost whole continents of ice, rocks, gravel, soil and animals, commingling all these matters in wild confusion, so that we cannot always readily determine the origin or quality of a soil by the rock in place, upon which it lies, or from the boulders that are scattered over and bedded in the soil—as an example of this, some soils resting immediately upon limestone, are as deficient in lime as the purely granite soils of New England. But there are other soils that partake so strongly of the rock from which they have been derived, that a pretty correct judgment can be formed of their chemical nature and agricultural value, without the aid of a "soil analysis."

As already said, the inorganic or mineral constituents of plants are derived from the soil. The soil derives them from the decomposing rock. Quartz yields siliceous, or silica, the sandy material that makes up so large a portion of most soils; and it is also the substance that gives the hard coating or glaze to the bamboo and cane, and stiffness to the stalks of corn and the straw of cereals, &c. Felspar and mica, yield potash and soda. Lime and magnesia are derived from different varieties of limestone.—Another variety of rock is largely composed of iron and sulphur, (sulphuret of iron.) This rock readily decomposes when exposed to the moisture and oxygen of the atmosphere, and thus supplies to the soil both sulphur and iron, and frequently to the injury of many of our cultivated crops.

We have dug from beneath the surface of the ground tons upon tons, of hard and perfectly sound rocks, that had lain in the soil ever since the flood, and up to the time they were disintegrated, they had apparently, neither gained or lost a single ounce. But soon after this kind of rock is dug from the ground and exposed to the action of atmospheric influences, a very marked change commences. The oxygen of the air, aided by moisture, combines with the rock, converting its iron on the exposed surface into an oxide or rust of iron, generally separating into thin scales; this operation sets free portions of the sulphur, which in turn combines with oxygen and sulphuric acid (oil of vitriol) is formed. The acid and oxide of iron chemically unite, resulting in the production of sulphate of iron, (copperas.) This salt of iron is very soluble in water, and when in excess, as is the case in many soils, this soluble acid and corrosive salt of iron, has a most injurious effect upon many of our cultivated crops. Sulphuret of iron may exist in a soil in various forms, such

as in large masses, or in boulders, small stones, gravel or loam; but in either form, it is year after year alike subjected to the decomposing action of the oxygen of the atmosphere and water.

Near the commencement of this article we gave the chemical composition of an 100 lbs. of gypsum. In an 100 lbs. of copperas, there is about 31 lbs. sulphuric acid, 27 lbs. of iron and 42 lbs. of water. The acid is composed of about 20 lbs. of oxygen and 11 lbs. of sulphur.

From the above it will be seen that when the farmer strews an 100 lbs. of gypsum over his fields, 18 lbs. of it is sulphur; applying the same amount of copperas, and 11 lbs. of it is sulphur. The copperas is vastly more soluble than gypsum, and we can see no reason why the plant cannot obtain sulphur as readily from the copperas as from the gypsum.

Dilute sulphuric acid applied to a soil largely abounding in lime, has the same good effects upon the leguminous crops upon it, that gypsum has upon the same kinds of plants on soils where it is known to have a beneficial action.

We have seen thousands of acres of land so badly impregnated with the sulphate and other salts of iron, that we felt certain that gypsum would not exhibit any effect upon the crops of such soil. And time and again, have made particular inquiries of the owners of such soils in respect to the action of gypsum upon their crops, and in all, or nearly all cases, have received for reply that plaster was useless on their soils.

No doubt gypsum acts upon growing crops, both from its sulphur and its lime, both being necessary constituents of plants. But if a soil already contains sulphur in excess, as we are sure some of the soils we have been speaking of do, then the addition of twenty, or any other number of pounds of sulphur as it exists in gypsum, would be like "carrying coals to New Castle," or applying potash to freshly burned land, from which the fire had just swept a heavy forest growth. The trifling amount of lime in the gypsum, could not neutralise any of the excess of acid naturally in the soil. But apply the carbonate or hydrate of lime to such soils, and it will become sulphate of lime, destroying or neutralizing the acid quality of the soil. Underdraining and liming is the only certain remedy for acid, irony soils; whether this can be done profitably or not depends upon circumstances.

On soils where the rocks, stones, &c., are pure granite, or such as do not readily decompose by the action of oxygen alone, and upon diluvial yellow soils, that do not contain "brimstone rock," or other natural compounds of sulphur, the application of gypsum is generally attended with marked results, especially upon inverted sward land, because in applying gypsum to such soils, we apply sulphur, one of the important inorganic elements of plants in which such soils are deficient, and we apply it, too, in a form in which the plant can readily appropriate it to its growth.

Scientific writers on agriculture tell us that

some ten inorganic substances are necessary in a soil to have it productive, and that they must be in a soluble form to be available to the plant, and that if one or two of these are entirely absent from a soil, it will fail to grow and perfectly mature the seeds of plants. This, doubtless, is true; but homœopathic doses of some one or two of the inorganic elements, applied to the soil, add wonderfully to a crop. Several years ago Gov. Hammond, of South Carolina wrote to us detailing some experiments he had made on his cotton crops with shell marl and gypsum. He says: "I tried some of it (gypsum) myself the past year on marled land. I rolled the cotton seed in it previously to planting them, and thus applied it at the rate of only one peck of the plaster per acre. I am satisfied that the product on the few acres to which it was applied, was one-third greater than on similar adjoining land. Those acres, the plastered and unplastered, received equally about thirty bushels of lime per acre last spring." Now what caused a yield of 33 1-3 per cent more of cotton per acre where only one peck of plaster was applied? It certainly could not have been the additional 8 1-4 lbs. of lime in the peck of plaster. The presumption is strongly in favor of the sulphur.—Country Gentleman.

#### AGRICULTURAL.

How shall the necessary conditions to further agricultural improvement be secured, and farmers take the rank, exert the influence, and receive the honors to which, by their contributions to social order and the welfare of the State, they are entitled?

1. Adopting a higher standard of education, both general and professional.

2. By a thorough cultivation of the soil, by which its fertility shall be increased and permanently maintained.

3. By the more general introduction of improved implements of husbandry, by which farm and household labor can be more easily and economically performed.

4. By improving the breeds of domestic stock and rearing only those animals which are the best of their respective kinds.

5. By growing only those roots, grains, grasses and fruits, which are the most nutritious and the most productive.

6. By pursuing that particular branch of husbandry which gives the strongest probabilities of success, having reference to climate, soil, markets and amount of foreign and domestic competition.

7. By making the business of farming attractive to educated men, and the farm house and all its surroundings pleasant to refined taste and cultivated manners.—Ex.

## Stock Raising Department.

### MILK SICKNESS.

Perhaps no disease to which the animal system is subject, and so readily traceable to local causes, has so completely baffled the skill of the chemist and physician in attempting to determine its precise origin. Some of the most skillful physicians have, with considerable confidence, charged it to some vegetable production, while others, with equal confidence, have attributed the cause to mineral substances, and yet no really conclusive proofs have been adduced to convince the public mind what is the legitimate cause of this mysterious malady.

Within the last few years we have heard less of the prevalence of milk sickness than in former years, whether it occurs less frequently than in the early settlement of the country, we are not informed. It is true that in certain localities where it was of frequent occurrence and often proved fatal both to animals and men no traces of it are now experienced.

In the late geological report of Kentucky, by Dr. David Dale Owen, frequent allusions are made to this disease, and the regions where it prevails are represented as being uniformly marked with certain specific geological characteristics, yet none of them revealed any traces of arsenic, to which some writers have confidently attributed it.

In the report Dr. Owen remarks upon this subject as follows: "During the progress of the field work, a qualitative chemical examination was made at the fountain head of the principal chemical constituents of forty different mineral waters, springs and well water, to most of which medical or deleterious effects were attributed.

"One of the principal objects which I had in view in carrying out this investigation was, to ascertain whether that local and mysterious disease, known as the *Milk Sickness*, originated from poisonous mineral substances, held in solution in the waters of the country, since some western physicians have attributed this disease to arsenic, introduced through the medium of well or spring water, and derived from beds of arsenical pyrites. I had especial reference to this metal in these chemical investigations.

"During the last summer I had opportunities of testing some of the most suspicious waters in milk-sick regions, though not in their most concentrated forms, in consequence of continued rains.

"So far as these investigations, and those of 1854, have yet been carried, in testing the unconcentrated waters, I find no confirmation of the disease originating from the presence of arsenic, or indeed of any other poisonous met-

als, such as lead, antimony, copper or zinc, since sublimated hydrogen, passed to saturation, through the unconcentrated waters, has failed to precipitate any of these metals, as sulphurets, which is considered one of the most delicate tests that can be resorted to.

"I have, however, almost invariably found astringent salts, viz: the double sulphates of alumina and iron, and not unfrequently, chloride of magnesium—the former being derived from pyritiferous shales, the latter in part, from silico-magnesian earths. Though it is doubtful whether these ingredients, held in solution in water, can be the origin or sole cause of the disease, yet it is highly probable that they tend to aggravate the complaint, and very likely tend to bring it to a crisis, since the whole symptoms of the disorder bespeak a disease of astringency or torpidity of the secreting functions, and it is well known that the cases of cattle known to have died of this complaint, are frequently found in the neighborhood of springs and oozings of clay licks, containing these astringent salts.

"Sufficient evidence has been disclosed in the last two seasons to establish the fact that the disease is intimately connected with the geological formation.

"All my observations tend to the conclusion, that wherever the disease is prevalent, pyritiferous shales or clays are in the immediate vicinity, producing by oxidation sulphate of alumina or the double sulphate of alumina and iron. These pyritiferous shales are not, however, confined to one geological formation; they are sometimes referable to the age of the quaternary formation, sometimes to the coal measures, sometimes to the black lingula shales of Devonian date, and even to blue limestone formation. It is highly probable, too, that such pyritiferous shales may give rise to a species of vegetation, producing astringent leaves or fruits, since it is an established fact in vegetable chemistry, that soluble, saline substances will enter into the circulation of the plant, and may be found crystallized in the cells of its organization. Or these astringent salts may effloresce in certain conditions of the atmosphere, and may creep up or otherwise settle extraneously on vegetation itself, or on the surface of the ground after the manner of common salt in the neighborhood of brine springs and salt wells. I find, too, an opinion very prevalent in milk-sick regions, that, at certain times, white incrustations can be observed, both on the ground and on the leaves of the grass and other plants.

"As this is a subject of vital importance to the inhabitants of the Western country, it will be necessary for me to enlarge somewhat upon the views advanced in a previous communication in connection with this subject, particularly in multiplying my arguments to prove that the arsenic theory of the origin of the disease is untenable.

"In poisoning with arsenic, in place of obstinate constipation, which is one of the prominent symptoms in milk-sickness, there is, usually, the very opposite effect produced on the bowels. Again, when arsenic is taken as a

medicine for any length of time, it often produces dropsy in the limbs; and though Christison doubts the power of the system to habituate itself to this poison, there are some reasons for believing that arsenic may be taken daily, in two grain doses, habitually, without producing any serious ailment until discontinued, and may, perhaps, even impart what some nations consider a fine complexion to the skin, and improve the wind for ascending mountains, which is the very opposite effect to that of milk sickness, for both animals and men, who have contracted this disorder are utterly incapable of exertion—the least exercise causing a trembling and complete prostration of the muscular system.

“Reflecting on the general presence of iron pyrites through the milk sick districts, and at the same time on the chemical affinities exercised by this mineral, it has occurred to me, as by no means improbable, that a large amount of this sulphuret of iron is disseminated in a soil or adjacent clay bank, the powerful deoxidizing effect which it may exert while both its elements pass on the one hand, into sulphuric acid, on the other, first into a state of protoxide and then into peroxide, that the lower strata of the atmosphere must certainly be robbed of a considerable portion of its oxygen. Now cattle, continually browsing with their nostrils close to the ground, may, in the neighborhood of pyritiferous earth, either as soils or clay banks, where they resort to lick, breathe an atmosphere deficient in the normal amount of oxygen. If so the blood could not be properly arterialized. It would then lack the necessary quantity of red globules in the arteries; the carbonate of the protoxide in the venous blood, returning to the heart and lungs, would not be relieved of its carbonic acid, nor from the deleterious, deoxidizing influence of the retained protoxide of iron, all of which causes must necessarily contribute to stagnate the healthy circulation of the blood; feebleness and torpidity of the secretions would thereby necessarily ensue. If, in addition to this morbid reaction already established, astringent substances were introduced by the food into the stomach, or through the intervention of water or clay licks—a thing highly probable in such situations—since a natural instinct draws animals inhabiting an extensive continent to resort to licks, especially when they feel indisposed. We have here, as heretofore remarked, a cause contributing greatly to aggravate the already deranged secreting organisms, and ample causes to explain the peculiar symptoms of the disease.

“The known deleterious influence on vegetation of both sulphuret of iron and sulphate of the protoxide of iron therefrom originating, might, at first view, appear inconsistent with the facts that milk sickness is often prevalent in tracts of rich land; but when we reflect that these pyritiferous beds are quite local in their position, and often accompanied with marly shales, destitute of iron pyrites producing a fertile soil, and that the injurious effect of the above minerals only lasts during the progress of the oxidation of their elements, while gypsum, a very fertilizing compound is always the result of the introduction of sulphuric acid or soluble

sulphates into a calcareous soil, whether it be of natural or artificial means; as this is ultimately the result of peroxidation of sulphur, we see at once how we may have in the immediate neighborhood, fertile lands. This fact may also explain the very local character of the disease as well as its disappearance after cultivation and a thorough exposure of the soil to the free action of the atmosphere. So consistent does this chemical and physiological reasoning appear, with facts derived from the chemical investigations already instituted, that very little doubt remains in my mind of its being the true explanation of the cause of this mysterious disease, which has so long baffled the observations of both medical men and residents of milk-sick districts.

“I believe, moreover, that soils impregnated with astringent salts are congenial to plants yielding astringent principles. At all events, oaks—especially the Spanish oak, which produces a very large acorn—prevails to a very great extent in some milk-sick regions, and it is the very general belief, among farmers living in milk-sick regions, that the disease is more common where there is an abundant mast.

“One of the prominent and characteristic symptoms of the disease is the peculiar odor of the breath. This is, undoubtedly, the consequence of the total suppression of the secretions of the gastric juice, consequent on the constricted condition of the vessels which secrete this fluid, and the deranged circulation. All aliments which may happen to be in the stomach at the time undergoes, consequently, the ordinary fermentation which the same substances would undergo out of the stomach, subject to the same temperature.

“If it be true as asserted by some, that milk-sickness may originate without the intervention of milk, butter or beef, then, I believe, that such cases must be caused either by the astringent effects of the waters of the locality, or by breathing a partially deoxidized atmosphere, or by the combined influences of both causes. As many of my readers may not have seen my remarks reported on the 29th of May 1855, I here subjoin with one additional remark, what is there stated in regard to the treatment of this stubborn disease.”

We shall close this article upon a subject of vital importance to the inhabitants of the West, with a few remarks, reserving what Dr. Owen has to say in regard to the treatment of the disease, for our next number.

If, as Dr. Owen believes, this disease results from the astringent actions of the minerals mentioned above, we cannot see how it is possible for the effects to be so marked and fatal as this disease is manifested in the human system when partaking of so small a quantity of milk, butter or cheese, produced from an infected cow, or when eating the beef of an animal that has been exposed to it. Even, if as some claim, the disease arises from arsenical



or the most concentrated form of any other known mineral poison, we should suppose it would be hardly possible for the small quantity of beef consumed by one person, taken from a diseased animal to contain enough of the poison to produce so serious consequences as are known to mark its effects, when the poison in the diseased animal is disseminated throughout the entire system. It is undoubtedly true that the poison in the cow finds its most speedy outlet through the lacteal secretions, and that it is imparted in its most concentrated form to those who partake of the milk, &c., from the cow. Whether any experiments upon the cow have ever been made with arsenic or any other mineral poisons, to prove its effects upon animals partaking of the milk or flesh of the cow we have never learned.

We shall be pleased to receive any facts that may tend to throw light upon this subject from the experience of any of our readers. We only ask that any communications on the subject shall be in as concentrated a form as possible. We should also be pleased to receive any facts in regard to the present prevalence of the disease, and of any instances where it has been known formerly to prevail in locations now exempt from it.

### THRUSH IN HORSES.

EDS. VALLEY FARMER:—While mowing with a machine last month one of my horses became very lame. Upon examination I found he had the thrush. I dressed the affected part with cold tar. He mended very slowly. I thought I would try an astringent, and so got a pound of chloride of lime and made a wash of it which I applied with pretty good success. Soon after, another of my horses became similarly affected, and soon another and another, until I had not a horse left fit for work. I borrowed three horses of one of my neighbors, and very soon they were lame from the same cause. I sent them home and at present my neighbor has nine horses, three of which are lame with thrush. After sending my neighbor's horses home, I dressed some of my horses' feet with hot tar and some with the chloride of lime, with about the same success, that is, mending very slowly.

If you or some obliging correspondent will give, through the columns of your paper, a better remedy than those I have adopted, and state whether or not thrush is contagious, there will be a favor conferred upon this neighborhood which will long be remembered.

N. GREEN.

St. Louis County, Mo.

Our correspondent desires to know whether the disease of thrush is contagious. Notwithstanding the facts which he has narrated tend

to show that it is contagious, yet when the nature of the disease and the conditions which cause it are fully understood, it will be evident that such is not the case.

Thrush is a disease of the horses' hoof. It may be known by the discharge of offensive matter from the frog, and is accompanied by the softening of the same. If allowed to run, the frog begins to contract and become brittle and tender, and the horse cannot bear to have them touched; and if the disease is not checked the hoof will eventually become destroyed.

The chief cause of this disease is moisture. Horses standing in stables in the mud, and especially in their own manure saturated with urine, are very liable to this disease. A full and fleshy state of the body is said by some to predispose to this disease, but this will not produce it. Standing in wet stables or on wet ground is the inducing cause of the disease.

*Cure.*—When the disease is in its first stages and is not severe, the remedy is cleanliness. Wash the feet with salt and water two or three times a day and let the horse stand in a clean, dry stall. If the disease should not be checked by this treatment, it would be advisable to follow some of the remedies recommended by our best farriers. Youatt, in his work on the Horse recommends the following treatment:

There are many receipts to stop a running thrush. Almost every application of an astringent, but not of too caustic nature, will have the effect. The common Egypticum (vinegar boiled with honey and verdigris) is a good liniment; but the most effectual and safest—drying up the discharge speedily but not suddenly, is a paste composed of blue vitriol, tar and lard, in proportions according to the virulence of the canker. A pledget of tow covered with it, should be introduced as deeply as possible, yet without force, into the cleft of the frog every night and removed in the morning before the horse goes to work. Attention should, at the same time, as in other diseases of the foot, be paid to the apparent cause of the complaint, and that cause should be carefully obviated or remedied. Before the application of the paste, the frog should be examined and every loose part of the horn or hardened discharge removed and if much of the frog is then exposed, a larger and wider piece of tow covered with the paste may be placed over it in addition to the pledget introduced into the cleft of the frog. It will be necessary to preserve the frog moist while the cure is in progress, and this may be done by filling the feet with tow covered by common stopping or using the felt pad likewise covered with it. Turning out would be prejudicial rather than of benefit to thrushy feet, except the dressing is continued and the feet defended from moisture.



## Horticultural Department.

### PREPARE FOR PLANTING FRUIT TREES.

From causes we shall not now attempt to explain, apples, peaches and pears are not grown with that success which was common in earlier times in this country. This fact renders it necessary that a more perfect preparation of the soil before planting be secured, and more thorough cultivation be given the trees afterwards. It is now useless to think of receiving profitable returns in fruits of these kinds unless the trees are planted upon suitable soil, properly prepared. Preparing the soil for an orchard is not the work of a day; if it is worth doing at all it is worth doing well. This is true of all branches of farming, but more especially true of orcharding at the present day. There is a wonderfully increasing demand for good fruit; this arises from two causes: first, from the increasing number of our population and the facilities for sending fruit to every city and village in the land; and second, from the fact that fruit is no longer regarded as a mere luxury, but it is now considered a necessary of life among all classes of people, and hence there will be a constantly increasing demand, with corresponding prices for a long time to come, for every kind of fruit.

To prepare the soil for an orchard, if it is not naturally dry it should be drained, and if it is not rich it should be well manured and the manure thoroughly incorporated with the soil by trenching or trench plowing. The fall is the most suitable period for planting fruit trees on most soils, and if the land has not already been prepared the present is a most favorable time for doing the work. The highest elevations for an orchard should be chosen, and where it is possible a Northern aspect is preferable, because the influence of the sun has a less tendency to encourage a premature circulation of the sap, which so frequently results in the destruc-

tion of the fruit buds by early frosts. Even if the planting is to be deferred until Spring it is always better to put the land in order in the fall and to dig the holes for the trees; for if they are dug as large and as deep as they ought to be, the rich earth with which they should be filled must be thrown in some time previous to planting, so that it may become thoroughly settled; because when filled at the time of planting, the earth and the trees settle together, which frequently cause the trees to stand two or three inches deeper than it was intended, which is a serious drawback to its future growth. Upon this subject we shall have more to say in our next number.

### DEATH AMONG THE PEACH TREES.

We have seldom witnessed such a general failure of the peach crop as has occurred the present season. In New Jersey, New York and other States, noted for their immense crops of peaches, the trees are nearly all dead, or in such a sickly and impaired condition that another crop can hardly be expected from them. We have visited numerous peach orchards in the States mentioned, and one not familiar with the history of the extremes of weather that have marked the last three or four years past, would be at a loss to account for the cause of the wide spread destruction of these trees; but a little reflection and close observation will furnish a solution to the problem.

It will be remembered that the winter of 1855 was one of great severity and although the wood of fruit trees was never in a better condition to withstand the effects of intense cold, still the cold in most of the peach growing sections was so severe as to cause the wood of the trees to turn brown, and in fact, it was entirely killed, but the peach, unlike any other tree with which we are acquainted, may be entirely killed by frost, while in the bark a sufficient vitality remains to cause the buds to burst forth in the spring, and the leaves to expand, and a vigorous growth of young shoots to follow, entirely encasing the dead portions of the old tree with a coating of new wood, and for a number of years, under favorable circumstances to assume a tolerably vigorous growth, which not unfrequently will afford full crops of fruit.

The Spring of 1856 found the trees in the condition we have described. This was followed by a tolerable growth with a fair set of fruit, which, in 1857, very generally matured. In

consequence of the impaired condition of the trees by frost, the succeeding crop of fruit did much to exhaust the remaining energies of the trees; the warm spring-like weather of January and February caused the buds to swell and produced an active flow of sap; this was followed by the severe cold of the early part of March, the thermometer falling in portions of the West to 10 and even 23 degrees below zero, with continued unfavorable weather in April. As usual the leaves put out, and in some sections, with the promise of some fruit, but the frequent alternation from warm to cold, with the enfeebled condition of the trees, was too much for them to survive, and the consequence is, thousands of peach trees have entirely died, while numerous others have barely survived, and with the best of nursing will hardly ever rally so as to produce another crop of fruit. But this should not discourage the fruit grower; he should plant again with the hope that a series of favorable years will follow that will more than reward him for the serious losses he has already sustained.

#### APPLE TREE BLIGHT.

We have received a letter from Mr. E. S. Crosier, of Harrison county, Ind., asking for information on the subject of the leaf blight in apple trees, which in late years has proved disastrous to several varieties of apples through the Ohio valley. In former numbers of the Valley Farmer we have spoken of some of the peculiarities of this disease. It is most fatal to those varieties of the apple possessing the least constitutional vigor, and as the Pryor's Red is either naturally lacking in constitution, or its present condition is proof of the theory claimed by Mr. Knight and others, viz: that trees, like animals, possess but a limited duration or life, and that trees propagated by grafts do not renew their existence, but must be regarded as only a part of the parent tree, multiplied by subdivision, and that when the parent tree has reached the utmost limit of its life, allotted by nature, it dies, and all its offspring are of equal age and are also subject to death and decay.

Twenty years ago we noticed evident want of vigor or decline in this excellent variety, long before any evidence of the present malady was discovered, and it will be observed even now, that when a tree, under some favorable circumstances gets a more vigorous start it seems to possess the power in a greater or less degree, to resist this disease. It is found now to be

extending to some other varieties, though less violent. Among these we have noticed the Yellow Bellflower, Carolina, (winter) and some others.

We noticed three years ago a wagon load of very superior Pryor's Red apples, in the Louisville market, grown in Indiana, and enquired of the owner whether his trees had ever been affected by this blight. He informed us that for six years previous he had not had a crop; all had been blighted by this disease, while that year no signs of it had appeared. We then felt encouraged to hope that it might pass away, but we now conclude that the exemption that year was attributable only to a certain condition of the atmosphere less favorable to its development.

We have examined the leaves sent to us by Mr. Crosier, and have frequently done so on former occasions, with a powerful microscope and find the disease to be a kind of parasitic fungus, which first appears in several minute rust colored spots upon the leaf, which gradually increase in size until they burst in the centre, developing a rim of curiously arranged filaments which seem entirely to destroy the natural functions of the leaves, and gradually impairing the vigor and life of the tree. This disease is similar in appearance to that which almost uniformly attacks young seedling pear trees in this country, but which, after the first year, when well started they are not liable to.

The cause of this disease in the apple tree is evidently atmospheric, and like disease in the animal subject, attacks those only of a weak habit, or impaired constitution.

We are unable to suggest any remedy, but would recommend a good soil or generous manuring and thorough cultivation as the best means of prevention.

**HYDRANGEA—HOW TO GROW IT OF VARIOUS COLORS.**—One of the most beautiful objects we have witnessed this season, is a large plant of the *Hydrangea*, growing upon the grounds of the old homestead of our earlier days. The plant is growing upon a poor, sandy soil, not suited to its nature, but by the application of a shovel full or two of swamp peat, incorporated with the earth about the roots, it presents a most vigorous growth, loaded with immense clusters of flowers, varying in colors, according to age, from light to dark pink; changing through all the shades of blue. All these various shades of color have been exhibited together throughout the season. It is now several years since this simple application of peat was made, and still these variegated hues have been continued every year since.

[Written for the Valley Farmer.]

**GARDENING OPERATIONS FOR SEPTEMBER.**

BY CAREW SANDERS.

**VEGETABLE DEPARTMENT.**

Seeds that may be sown this month are turnips, and a little sprinkling of lettuce and radishes, all to come in this fall. Lettuce sown now will be tender and crisp, all along till hard frost comes, while, if a few seeds of the hardy kinds are sown, they may be transplanted into a cold frame, or protected where they are, by a little dry litter, and will be in advance of spring sowings considerably.

*Prepare for another Season.* If you would like to enjoy green vegetables when they are most welcome and most of a luxury, now is the time to prepare for it. Such vegetables as Spinach, German Greens or Kale, Green Onions, &c. These, if sown from first to the middle or even end of this month will stand the winter and at the very first opening of vegetation, in early Spring, will commence to grow and yield to you their wholesome greens. A piece of ground may be selected from which some other crop has been cleared, a good coat of manure applied, well spaded in and raked fine. Sow the seed in drills a foot apart, and if the ground is dry, after covering the seed, pass a roller over it, or pat it down with the back of the spade. A better plan than either is to cover the seed in the drills with the foot; walk along with one foot on each side of the drill, and alternately bring your heel and side of the foot with the soil thrown out over the drill. This will bring the fine soil in the drills in contact with the seed, and press it firm at the same time, and will leave the ground in a much better state than raking it over smooth and fine.

Some onion sets may be planted at the same time to use green, and they may all be sown side by side as they will come off early and the ground will be excellent for roots, beets, carrots or parsnips.

From the middle to the end of the month, a few Early York cabbage and cauliflower may be sown to stand the winter. Cabbage plants may be pricked out in a square form, and might easily be protected by being almost buried in dry leaves, with a board set on edge around the bed to keep them from blowing away. In fact leaves are one of the very best materials for the protection of any tender plants from the frosts, winds and snows of winter. Cauliflower can be tolerably easily wintered in a cold frame.

*Blanching Celery.*—This must be proceeded with this month. The most forward, if wanted for fall use, must be thoroughly blanched where it is, while that wanted for late winter use, may be mostly all blanched after taking up and stowed away in its winter quarters.

To commence the earthing process, work the ground up fine on each side, go along the row and pull off all split and decayed stalks, and also all the offsets that spring from the main plant leaving the latter only. Then bring a few inches of soil up around each plant and press it round close to the plant with one hand, while holding the stalks close together with the other.

This process need not be repeated, but as the heart leaves emerge a few inches, so much earth may be added, always taking care to keep the soil a little below the centre leaf stalks, so as not to bury and cripple them.

**FLOWER GARDEN.**

Preparations for another year will also be in order for this department now. Many of the tender exotics that grow and bloom so luxuriantly during the summer months, cannot stand old Boreas' biting breath. Some are so delicate and tender that at the very first touch of his icy wand, they are chilled, and their blackened leaves only remain to tell what they once were. Provision must be made, then, to house these tender plants if you would enjoy their beauty another year and do not want to purchase afresh. Many kinds are best and easiest kept from young cuttings struck in the fall.

The beginning of this month is a good time to take off and strike cuttings for the above purpose, and it is a much easier matter to make cuttings or slips grow, and preserve them too, through the winter than many people imagine. For this latitude many of the more hardy of the tender plants can be kept through an ordinary winter, without fire heat, but with a cold pot or frame sunk a little into the ground, and banked up to the top all around on the outside, leaving nothing but the top or glass exposed. This should be covered up thickly in severe weather with shutters and litter, and the frost will rarely penetrate inside. If it should do so, by judicious management in thawing out they will receive little or no injury. But to the cuttings. If you have any hot bed sash take one of them, if not any common window sash will do.—Have a box of four sides, of the same size as your sash. Select a shaded place, on the North side of a wall or building. Set your box level on the ground and pressed in a little. You can then either put your cuttings in pots or root them in the open frame and pot them off when rooted. In either case you must have some clean sharp sand; if in the box, fill up with it to within six inches of the glass; make it level and smooth, then give a good sprinkling of water, to soak it well and settle it down firm. Then prepare your cuttings in the following manner. Take off the point of a growing shoot three or four inches long; trim off the leaves of the lower joints and cut clean just below a joint; then with a pointed stick plant them in the sand up to their lower leaves, an inch or two apart; press them in firmly, water well and put on the glass and keep it quite close for a week or two, till they have rooted, which may be known by their beginning to grow; then air them off gradually and pot off. During this time the air inside the frame must be kept moist by frequent sprinkling from a syringe or fine watering pot. The solar heat in the atmosphere will keep it warm enough, but the sun must not be allowed to shine on the glass, except morning or evening. If it should do so the glass must be shaded by light canvass, leafy branches, or some light material. If you prefer to strike in pots, the plants might remain in those pots all winter. It is a common practice to fill the pots half full of soil and the balance



with sand; but we recommend in the above case, to use a soil of three-fourths sand, the rest fine mould mixed together. Put several pieces of crock at the bottom of the pot; fill up firm with the soil and plant your cuttings round the edge of the pot. Stand in the frame and treat as above advised.

The more hardy plants alluded to above are all the Verbenas, Lantana, Pyrethrums, Ageratums, Penstemon, Nerembergia, Lobelia and many others.

[Written for the Valley Farmer.]

#### GARDENING IN S. W. MISSOURI.

Gardening in this country has received but little attention, although we have as fine land and as good a climate as could be desired for this purpose. I came here as a teacher in 1856, and took charge of — Institution. Having but little time to spare out of the school-room, I concluded that that little could be more profitably employed in gardening than anything else. For this purpose I chose a rich spot of prairie land and had it broken in the ordinary way. The first year I endeavored to get my land in a good condition for the next, which I did by plowing, harrowing and hoeing until the surface was thoroughly pulverized. Last February I gave it a good coating of barn yard manure and turned it under as deep as I could with two horses and a good plow. I then commenced with the spade and trenched the most of my land from two to three feet deep, and then threw up beds mixing them with stable manure, ashes, the top of my wood yard, hen house manure, poudrette, &c.

I commenced planting in March and put out my onions, tomatoes, early cabbage, corn and potatoes. I made successive plantings until May. I procured a good set of garden implements and commenced in due time hoeing and raking and did not suffer a weed or blade of grass to grow in my garden. The ground was thoroughly and deeply worked at the proper time and further work was unnecessary.

The result. I have had a plenty of good vegetables since the middle of April, such as lettuce, mustard, peas, &c., for early use, and now I have an abundance of beets of every variety, horn carrots, parsnips, potatoes, tomatoes, beans, peas, squashes, okra, corn, cucumbers, mushmelons, watermelons, cantilopes, &c., &c., of the very best quality, more than my family can use, and we make a liberal distribution among our neighbors.

I attribute my success in gardening this year to the following facts: 1st. I send east and procure good seeds. 2nd. I procured Fowler & Wells' book on gardening. 3d. I take the *Valley Farmer* and obey instructions. 4th. To preserve my health I have labored incessantly during all my spare time out of the school room. The garden has been my place of retreat, morning, noon and evening.

The consequence. My health is better than it ever was. My appetite is good, and my mind free from care. I am for the first time spending my vacation at home, and find that I am in the midst of plenty and of domestic and social enjoyment.

J. B. A.

[Written for the Valley Farmer.]

#### ON THE WANT OF A HORTICULTURAL SOCIETY IN ST. LOUIS.

Strangers on visiting St. Louis remark the poor quality of the fruit and vegetables offered for sale, and the rarity of flowers, together with the high prices that are exacted for them. On enquiring whether there is anything in the soil to prevent an improvement in the premises, these strangers are overwhelmed with vociferous protestations that the soil and climate of Missouri are the finest in these United States; they must therefore come to the conclusion that ignorance or idleness are at the bottom of the evil. As good, abundant and cheap markets are at the foundation of the prosperity of all large communities it is worth while to inquire whether and how such a state of things may be brought about in St. Louis.

Emulation and competition are two of the strongest stimulants to human exertion, and the formation of a Horticultural Society properly organized and energetically pushed on, would work a wonderful revolution in the markets of this city in three years, as regards vegetables and flowers, and in five years in fruits. The prizes distributed are certainly a great spur to market gardeners, but the greatest impulse would be given were gentlemen of independent means to send their superfluous garden products to market. In the cities of the Northern States this is constantly done, and in Great Britain noblemen and gentlemen of colossal fortunes do it, and it is thought no disgrace. The writer of this article has gone into the hot house of the Duke of Hamilton and bought a shillings worth of grapes.—The advantages to the individual are that the salaries of his gardener and assistants are paid by the surplus of the garden, a healthy impetus is given to the exertions of the market gardener, the necessities of life would be cheapened to the working classes, and the markets would be supplied much earlier in the season. Flowers would be more abundant and choicer, as well as more accessible to the lighter range of purses. By diffusing a taste for raising flowers in the house an additional humanizing element is thrown out to help to raise us from the wild recklessness that characterises the infancy of Western towns. The writer organized a Horticultural society in a town in the North, and in two years melons, cucumbers and potatoes were raised in June, that before were never seen till the end of July or beginning of August. Here much more could be accomplished by the more general use of glass, and country people would be ashamed to bring to market the wilted or rotten peaches, the tasteless apples, turnip flavored pears, &c., having the form and semblance of fruit, but nothing more. The approaching fair will give an opportunity for those disposed to interest themselves, to form such an association. To render it effective, it is necessary to enlist as many people in it as possible; and therefore the subscription should be low—say \$1 per annum.

S. C. S.

[For the Valley Farmer.]

**A CHAPTER ON SEED-SAVING.**

We do not believe, as a general rule, that it is advisable for the market gardener, the private gardener, or the amateur, to save all his own seed. We are not going to recommend this. Seed growing is a business of itself—and so it ought to be—for when conducted honestly, systematically and scientifically, being made a specialty, with a regular and proper division of labor, with all the necessary and proper appliances for growing, collecting and cleaning the seed, it can be cheaper done, and better done, than in saving by mere dribblets in a small or large garden where other objects are primary and this only secondary.

Seed-raising, too, is one of the most important branches of Horticultural pursuits, and requires to be conducted with care, skill and honesty; for what is more provoking and annoying, and worse still, the positive and irreparable loss it involves, to find, after much labor and time bestowed, that you have been cultivating a spurious, perhaps worthless variety.—The loss of the cost of the seed is comparatively nothing to the loss of time, labor and the season gone. Yet how often does this occur? The grower is entirely at the mercy of the seed-raiser, and he should, first of all, make it a point to obtain his seed from the most reliable source that can be had, even if it be at a higher cost, than can somewhere else be found, and the next is the exception to the rule above hinted at. He should endeavor to save such kinds of seed as are apt to prove uncertain, and which it is of the first importance to have true, and then he may save such kinds as are easily saved, and take but little of his valuable time during the busy season. There are some kinds which it does not pay the trouble of saving, as the *salsify*, for instance, which if not gone over every day and collected, will blow away and be lost, but this is less liable to be inferior than many others, as there is nothing commonly grown that will mix with it. It may however be set down as an axiom, that if you possess a really superior variety of anything, it is worth a little extra trouble to save it, (and we have known persons who did possess varieties, the equal of which could not be purchased in any of the seed stores.) If you have such, save with jealous care. Select out plants and let them be the best for seed, and they will go on improving under your hands.

Another point is, as all plants are liable to sport or vary, you may often find some improvement in an individual plant, in its edible qualities, whether vegetable or fruit, and, as like produces like, by saving the seed from it, you may retain and fix that improvement, though possibly you may lose it again, but you should always proceed on that principle, to select for seed, the most mature and perfect of its kind.

But we did not set out to dwell on generalities, but intended to particularize some varieties which we consider the most desirable to save. All kinds that can be hung up or otherwise stored away, to be threshed and cleaned

out in winter, and that includes quite a number, may be saved, but never save two varieties of the same species that ripen at the same time, as they will be sure to mix and cross at quite a long distance. This may be obviated with lettuce, radish and several other things, by saving one at a time, and so on in succession, if you have several varieties.

Turnip blood beet is very often found improved by being crossed with light colored varieties. A good colored variety once possessed may easily be retained by saving your own seed.

But we think the most troublesome to get pure, and at the same time the most important, is the cabbage family. There are so many varieties of this tribe and they cross and hybridize so easily that they are oftener found impure and spurious than any others, and when they are thus crossed, they are often so spoiled as to be utterly worthless. The cabbage will mix with and so destroy the cauliflower and brocoli that they will not produce a head, and *vice versa*, so that in saving cabbage seed you should not by any means allow any other plant of that family to be in flower at the same time.

Pumpkins and squash cross very freely, and also the different varieties of the mush and watermelon, and it is impossible to presume any given variety true, if there are others in proximity to it. These facts are pretty well known but are too often neglected when they should not be. It is not so much for a want of knowledge of these matters we believe, as it is a sort of carelessness, and a want of reflection in the after consequences, and whether it be the professional seed-grower, or the gardener growing for his own use, no one can be too particular on the subject of hybridizing, and thus injuring the variety, nor in selecting the first and best of every kind for seed.

CAREW SANDERS.

Saint Louis Nursery.

[For the Valley Farmer.]

**ABOUT APPLES.**

EDS. VALLEY FARMER:—I have been looking around among the fruits brought into this (St. Louis) market, during the past week, with a view to gather anything new, either of name or variety, that might present itself. I find the *Kentucky Red June* proves the *Early Strawberry*, or *Red Juneating* of the books. The *Yellow June*, as it has presented itself to me, is the same as *White Juneating* of authors. The old *Rambo Francor* or *Summer Rambo*, I have found here as *Gennetting*. While the *Early Margaret* has been shown me as *Striped Harvest*. The *Early Harvest* is known here by its true name, and I find it is really one of the most profitable as well as best of early fruits grown. The *Illinois* or *Carolina Red June* is a distinct apple, and to me appears as belonging to the class of Russian apples. I think I shall be able to show what it is, but as yet am unable to state it. The *Summer Rose* and the *Early Bough*, I saw to day out on the farm of C. S. Rannels, Esq., both wanting about ten days of matu-

riety, but evidently exhibiting qualities entitling them to the attention of fruit growers.

Having taken up my residence here I shall have pleasure, (if so it suits you) in giving you from time to time some notes of my lookings on as I move around among fruit growers and their farms and gardens, and at the same time I shall be pleased if fruit growers will send me samples of their varieties with the names they know them by.

F. R. ELLIOT.

St. Louis, Mo., July 15.

[Written for the Valley Farmer.]

### HOW TO SHIP PEACHES.

Parties shipping peaches to a long distance by attending to the following rule will have better success than shipping in the ordinary way where they get all bruised and mashed up, and when one in a basket begins to rot the rest very soon follow:

Procure a quantity of silk or other light wrapping paper which may be bought very cheap. Fold and cut into square pieces large enough to cover your largest sized peaches. Set the peach down in the centre, gather up the four corners around the peach, and twist with the fore finger and thumb tight, and see all is covered with the paper. Then pack away carefully in boxes or baskets, but boxes are preferable when they have to go a long distance, subject to re-shipments and frequent handling, because boxes will not yield so much to pressure by being jammed between other freight.

The cost of wrapping will not be more than 10 per cent and when they arrive at the destined market they will bring 25 per cent extra. It is a good plan, likewise, to pull them from the tree before quite ripe. When excluded from the air they will ripen on the journey. The writer saw, last year, peaches shipped from Vicksburg, Miss., to the island of Mackinaw, Mich., Collinwood, C. W., &c., come out of the boxes fresh and fair as when pulled from the tree and they sold at great prices.

JAMES WILSON.

St. Louis, Mo.

### Cultivation of the Peach Tree.

Prof. Mapes, of New Jersey, in treating of the cultivation of the peach tree, says that peach stones, in falling from the trees, always bury themselves alike, point downwards, and this ought to be imitated. Broad end upwards, the frost opens them and water enters. He describes a plan, the ideal of which is to fit the bud, in the process of budding, by cutting away so much of the bark as will allow the insertion of the bud in the place of the removed bark. The peach tree must be set one inch higher than in the nursery from which it is taken. The new growth should be taken in, early in the next spring. The double labor is a fruit bud, and the stock should never be shortened in next to it. If a peach be borne on the end of a long, straggling, dependant branch, its death is not far distant. Peach trees eighteen years old may be rendered fruitful by proper treatment. The soil must be disturbed early or there will be no crop.—*Ex.*

### ADDRESS

DR. JOHN A. WARDER,

BEFORE THE NORTH-WESTERN FRUIT GROWER'S ASSOCIATION,

At Alton, Illinois, October 2d, 1887.

(Continued from last month.)

Packing trees suitably is a matter of no less importance than digging them well, and the consideration of this topic very naturally ensues. It has been observed by nurserymen that purchasers objected to the charge made for packing the trees properly, and this has been urged in excuse for the very slovenly plan often pursued. Good nurserymen will not only dig up their fine trees with care, but they will be unwilling to have them leave their premises without being carefully secured, and they should be paid for their trouble. Some one has proposed to change the items in the bills, and to write,

For 1000 trees, - - - \$000 00

For packing the same, - - - 150 00

Total, - - - - \$150 00

A very important query has arisen in regard to the preparation of trees for transportation, before packing them. One of your own number has again suggested the matter to me within a few days. In order to receive our trees from the nursery in as short a time as may be, all judicious persons now employ the express lines, wherever they can be found running in the direction of transportation needed. The increased expense of the freight becomes a serious matter, but the advantage of rapid transit is supposed to counterbalance this. The suggestion I have to make to the nurserymen may be conveyed by this query—How much freight may be judiciously saved by a proper pruning of the trees before they are packed? Many of our best nurserymen and tree planters recommend the severe heading-in of all trees, except evergreens, when they are set out. Now if this trimming is to be performed at all, why not have it done at the nursery and thus avoid paying freight upon this useless brush? The packing can be more snugly performed also.—For my own part, however, I should rather save freight by selecting younger trees.

*Site for an Orchard.*—To the man who is about to plant fruit trees one of the most important points to have settled correctly will be the selection of the site for his orchard. In a large proportion of our country late spring frosts frequently occur, and often destroy the blossoms and even the young fruit of our favorite trees, on account of their early blooming, or from some individual peculiarities, certain varieties are more obnoxious to this calamity, so also, other sorts are less liable to suffer, these differences should be carefully considered when making a selection of kinds. We now have to consider the choice of a site and should first look for a position least liable to this difficulty, and at the same time endeavor to find one that shall not be liable also to a too early excitation of vitality about the close of winter. For



the peach orchard this is particularly important, for we have learned that the blossom buds of this delicious fruit are not necessarily destroyed by a mere depression of temperature below a certain point, as was once supposed, but that a slight degree of excitation of the sap having been induced by a spell of mild weather a comparatively moderate amount of cold is often the cause of their death and the destruction of the crop. On these accounts, as well as because of a dryer soil, elevated positions, even where the difference in altitude is but moderate, will always be found the best for orchards. On ridges, too, we generally find a thinner soil than upon a lower depression of the earth's surface, and though the choice fruits we desire to cultivate must receive generous treatment at our hands, we shall find the best specimens and the soundest as well as the fairest, upon elevated land of moderate fertility.—There must be enough of the elements of the tree and its fruit to insure a full development of each, if we would expect success in the orchard—but, while our receipts will be small from the scraggy, stunted trees of a sterile soil, on the other hand, the fruit grown upon the wide spreading trees of our most fertile bottom lands will be found with all its size, less sound, less compact, less completely perfected, with a minimum of flavor, and often covered with lichens that sadly disfigure its beauty.

The site of an orchard is a matter of the highest importance. Differences of level in any given region, as has already been noted, have very different temperature, and as slight depression, at certain periods, when the thermometer stands near 40°, will produce frost, it is exceedingly desirable to avoid a situation liable to this calamity which is destructive to tender vegetation. Late or spring frosts are often the cause of our losing a crop when the trees have withstood the rigors of a severe winter. For this reason elevated ridges, particularly when so situated, as that the cold air can easily flow off into valleys and gorges among the hills, have been well selected for orchards, and the planters of such grounds have been rewarded for their judgment; it is not enough that the land should be elevated, the elevation must also have its adjoining valleys to receive the cold air. Of all situations the *basins* on elevated table lands should be avoided, as such depressions are peculiarly obnoxious to frosts. Proximity to a large body of water has also been found to be of great value as a protection from late frosts. This may at first appear paradoxical, but it is a well established fact, and the circumstance is easily explained upon scientific principles: A constant evaporation is occurring from the surface of water, in which process a large amount of heat is consumed, and becomes hidden in the vapor. As much heat is locked up in the slow evaporation of a gallon of water, as in the rapid ebullition of a similar quantity in a tea kettle. This heat is not lost, but is hidden for wise purposes. The vapor, at whatever temperature, whenever it becomes chilled, resumes its original form of a liquid, and in this change it again gives off its hidden heat, in a sensible form to exercise its genial influence upon sur-

rounding matter, the earth, the air and plants. *Evaporation* is a cooling process, and *Condensation* of vapor is a warming operation. This influence of water in tempering the atmosphere is no doubt felt near our great rivers, especially where the prevailing winds direct the currents of the air, thus laden with moisture, towards the orchard. The lakes of our country are known to exercise a most happy influence upon the retarding of vegetation in the early spring, and then they protect from late frosts in the spring, and also ward off the early chills of autumn—thus, at Kelly's Island, near Sandusky, in Lake Erie, we find a paradise for fruit culture, notwithstanding the high latitude. The Lake shore, near Cleveland, Ohio, has become famous for the success of its fruit growers.

Aspect is of equal importance, and this is a matter that will be much more within the control of the majority of us, for few can have the opportunity, in large tracts of our country, of choosing high ridges, nor can many enjoy the privilege of lacustrine or fluvial influences upon the climate. The favored few should improve their advantages, but for the rest of us we must take the land as we find it. Still, it may well be questioned whether orchards beyond a very limited extent should be planted in those places which are obnoxious to late frosts. In any situation we may exercise our judgment, in regard to the aspect of our orchards. A Southern slope would seem to attract our attention on account of the genial influences of a vernal sunshine—but in those latitudes where a mid-day sun effects the thawing of the surface during the winter, great injury will often ensue, with the sharp frosts of the following night. This thawing and freezing will be attended with disastrous effects, and the worst aspect for an orchard will be the Southern and South-western—whereas, the Northern and the North-easterly slopes will be the most happily situated, to avoid, as much as possible, the bad effects of a winter's sunshine. This is illustrated by the observations of every one of you, and you are also well aware of the immense value of even a partial shading of plants by a slight screen.

You need not be informed further, as to the soil and the preparation for the orchard than merely in general terms to be advised to till the ground well before planting; in a small way and for a few pats the land may be trenched, but for general tree-planting upon a large scale, the plow alone will be sufficient. Drainage of the soil is highly advantageous and will be absolutely necessary to success in many portions of the country. Where this improvement is not attainable, *surface drainage* may be effected by plowing the soil in the narrow lands or beds, and planting the trees upon the ridges thus thrown up. In some places where moisture abounds and where a desire exists to cultivate fruits, raised stations have been made for the trees.

A very simple method for planting trees has been adopted in some parts of the country which may be named in this place: After the land has been well prepared, the last plowing is done so as to throw the soil into lands of the same breadth or the distance between the rows, say 32 or 40 feet, according to the character of the



trees to be planted. A large plow is then drawn through the dead furrows, opening them still more widely, and this is followed by the sub-soil plow, as deeply as possible. The field will then present the appearance of having been ditched transversely, every two or three rods. At appropriate distances a light plow is then drawn across the field at right angles to the first, deep furrows, and these inter sections mark the stations for the trees, which may now be set with great rapidity and entire satisfaction—the great labor of digging holes is thus dispensed with and the process of planting is greatly accelerated.

The selection of varieties of fruits to be planted in an orchard, affords a fine field for the exercise of the judgment, skill and knowledge of the orchardist. I had intended enlarging upon this topic, but find here, as in so many other points, that my hearers are my teachers, and it is unmeet that I should attempt even to suggest anything to them, and therefore refer you to your own lists of fruits. Before leaving this subject, however, the broad principle may be laid down that this selection must depend upon local causes connected with the locality, and upon the object of the orchard, and the character of the market to be supplied with the fruits.

In discussing the treatment of the orchard, we may assume that what is worth doing at all is worth doing well. Thorough cultivation will accelerate the growth and development of the young trees, and thus contribute to ultimate success. This kind of treatment, especially if accompanied by manuring, is, however, accompanied with danger. The too rapid growth of the tree, when prolonged into the autumn, will endanger the destruction of the sappy wood by frost, and in such situations and soils, some varieties will continue to grow enormously but will not make a speedy return in fruit.

The opposite plan of *no culture* has been recommended by some orchardists, these contend that the occupation of the surface of the soil by grass not only checks the too great luxuriance of the trees, in certain soils, and thus conduces to their earlier productiveness, but that the matted coat of grass affords a most valuable mulching of the soil, protects from the effects of frost upon the roots, and also, by encouraging the moles, furnishes through the agency of these earth workers, a sufficient amount of culture to sustain the trees in good condition. Generally speaking, the intelligent fruit growers of the North-west can indicate the products of such orchards, which they facetiously designate as *grass fed*. The finest specimens, here, as elsewhere, are produced in the best cultivated orchards.

A medium course is sometimes pursued in situations where the plow cannot be conveniently used; the ground immediately about the trees is turned over with the spade, and sometimes mulching is also used, but these processes can only be applied upon limited orchards. In general culture the application of lime and the occasional turning under of a crop of clover will contribute largely to the success of the growing and bearing trees.

I had intended to have offered some views

upon trimming the orchard and also upon the injurious effects of insects—but in consequence of my having found you so much better posted upon these topics than myself, I will beg to decline entering upon that branch of the subject at the present time.

In conclusion, Mr. President and gentlemen, allow me most sincerely to thank you for the opportunity you have afforded me of renewing your acquaintance, and of again studying with you the beautiful fruits of your skill and labor in this our glorious land. While tracing the shades of variety in the productions of different localities, studying with you the varieties peculiarly adapted to the wide spread portions of the great North-western region, new friendships of the most agreeable character have been formed, and old attachments to the men of my heart have been renewed, and more firmly cemented. These circumstances are sufficient to repay me amply for the toilsome journey, and the absence from the delights of the domestic hearth-stone, to which I shall return from this delightful meeting, with increased admiration for the country, its products and its noble possessors.

Finally—through you my heartfelt thanks are tendered to this enlightened audience for the patience with which they have listened to a plain, practical man, enouncing in his homely way, some of the simple truths of nature, as they have unfolded themselves to his observation.

#### CURRENTS.

The currant may be regarded as a universal fruit, that is, adapted to nearly all sections of the country, though it fruits more abundantly in the northern latitudes than in the south and south west, yet here, in proper situations, with a careful culture, it is a sure and a generous bearer. Within a few years a great many new and improved varieties have been added to the catalogue. Among these we know of none superior in size, flavor and productiveness to the *Cherry Currant*. We have recently seen in several gardens this variety under cultivation, and it certainly excels in size any other kind with which we are acquainted. The fruit is more than double the size of the old Red Dutch variety. This adds materially to its value on several accounts; the time saved in gathering currants the size of respectable cherries, with a dozen or more on a single stem, is not the least among the advantages of this kind. The currant in any of its varieties is a fruit worthy of more attention than it generally receives; it is among the most useful fruits, in the family, in a great variety of forms; they may be eaten before they are ripe in pies, or they may be preserved in air tight bottles for winter use for pies or sauce; they may be made into jelly, which is superior to that made from any other kind of fruit; when made into wine, there is none better in case of sickness.

## The Home Circle.

### RESPONSIBILITY.

Human beings are made for responsibility. They are subject to an order of things that brings responsibility sooner or later. They are responsible to God and to each other, to government, to parents, to many laws. Experience has proved that responsibility is beneficial.— Make men responsible and they become thoughtful, careful, energetic. It puts them upon the race for honors. It draws them out. It gives them force, courage, character. Often has an apparently thoughtless young man come out beyond all expectation when placed in some responsible post. So has many an apparently giddy young girl been transformed into a discreet and thoughtful woman by taking early the responsibilities of a family. Hence we may learn that if we would develop the best powers of our children and form within them the best characters, we must give them responsibility. The boy must have something to do and care for, a piece of ground to cultivate, a tree to prune and manage, a calf or a sheep or a pig to rear, certain things to do, or duties to perform, something useful within his ability that he must attend to in its time and place. So will he become self-reliant and reliable as well as prompt and energetic.

The girl, too, must have a task, a duty, something to be responsible for. She must have some work, some household or domestic care, or a brood of chickens or kittens to take charge of, or a doll to dress, or an apron to make, or a bed of flowers to weed, or a room to sweep, or some useful thing to do, for which she is responsible. So should all children very early be made responsible according to their age and ability. It will teach them to be thoughtful and prompt, to do what they have to do with all their might. It will teach them to be useful and to rejoice in their own individual abilities. Children want to know what they can do and be. They want to be taught to despise that word of weakness and cowardice, "I can't." This despicable word spoils many a child.— Make children believe they can do and they will do. There is a great deal in a will. Give a child a resolute will and though he commit a thousand blunders he will succeed in the end. This will can best be given by making him responsible for something within his ability. It is well for children early to have a little prop-

erty to manage and a small bit of the farm or the house to take care of. Trust a child if you would encourage him.

### HOW TO EAT.

We have long considered eating an important part of our daily pleasure and duty. There are rules to be observed, which physiologically considered are intimately connected with health and life, and hence with our success and characters. We should eat at regular times, eat wholesome food, eat slowly, masticate well, be cheerful while we eat, drink but little while eating, eat to live and not to kill ourselves.

But the thought on our mind just now, is relatively to the proprieties of the table. There are many little courtesies and refinements among well bred people at the table which many regard with indifference, that just now seem to us particularly appropriate and becoming. We say *just now*, because we had occasion a few days since to feed some Indians fresh from the forest. Their manner of eating was so hogghish, greedy, gormandish, as to be absolutely repulsive, not to say loathsome. That human beings could eat so like brutes we had not before dreamed. We had heard before of "bolting food," "roughing it," "taking it the natural way," &c., but we had no real conception of the coarseness and brutality of savage eating. We saw then the beauty of the refinements of the civilized table as we had never seen it before. We realized sensibly the importance of cultivating a chaste and proper manner of eating, a refinement of table etiquette that shall be at once graceful and agreeable.

There are few places in which one's breeding shows itself more clearly than at the table. A low bred man will generally be ill-mannered and coarse at the table. A selfish man will usually show his selfishness as soon at the festal board as elsewhere. An awkward man will be sure to be doubly awkward at the table. A bashful man is most bashful when he eats in the company of others. A mean man will be especially mean at his own table. On the contrary a gentleman is especially a gentleman at his meals. The generous man here shows his generosity; the polite man his politeness; the well bred man his good manners; the graceful man his polish; the dignified man his dignity.

With the American people table etiquette is too much neglected. More attention to good manners, to a graceful and easy style of eating, to table politeness and courtesy, would do much

to polish our people, and make their common behavior more agreeable and satisfactory to themselves. Our example and instruction before our children are important to them. There is such a thing as excessive politeness, as an exquisite mannerism at the table, which is to be avoided; but we are more likely to offend with our coarseness.

### WHAT IS TROUBLE?

People's troubles differ. What is trouble to one is not always so to another. A parent's trouble and a child's trouble are different.—We have just read a touching story of a mother's trouble and will repeat the substance of it to our little readers.

A number of ladies were talking about trouble. Each one told her own troubles. At length it came to Mrs. Gray to tell what she called trouble. She started life in fair prospects.—She had a good husband and four promising children. They had a beautiful home and all comforts and home pleasures. There came a flood and washed away their house and drowned her husband and three of her boys. This was not trouble to her. She sorrowed as would any bereaved wife and mother, but they were good and were taken away from her by an accident that they could not avert. Their memory was sweet and she had one bright boy left. She had to labor hard to support and educate him and many were her toils and privations; but these were not troubles. She toiled on and hoped on. In her own words we may complete the story. "I labored night and day to support him and myself, and sought to train him in the right way; but as he grew older evil companions won him away from me. He ceased to care for his mother's counsels; he would sneer at her entreaties and agonizing prayers. He left my humble roof that he might be unrestrained in the pursuit of evil, and at last when heated by wine, one night, he took the life of a fellow being and ended his own upon the scaffold. My Heavenly Father had filled my cup of sorrow before but now it run over. *That was trouble*, ladies, such as I hope His mercy may spare you from ever experiencing."

Who among our young readers will give such trouble to his mother? What boy or girl will become wicked and vile and so bring down the gray hairs of his or her parents in sorrow to the grave? Think of this sad story and resolve to be good and virtuous and useful, avoiding evil companions and evil drink.

(For the Valley Farmer.)

### What has Life in Store for Us?

How prone is the heart when saddened by the cares or sorrows of the present to leave the thoughts of life's realities, and range in fancy the distant and uncertain future. Oft rises the question to our minds "What has life in store for us?" and ardent though vain are our longings to know what shall be hereafter. He who ruleth our destiny, in wisdom concealeth futurity from us, for could we foresee the mingled sunshine and shadows, joy and wo, with which life's pathway will be interspersed, hope would cease to cheer us, and gloom would shroud our brightest anticipations. But though it is forbidden us to read the future, yet we know that it will bring its duties, and weighty will be the responsibilities it will lay upon us. *Now*, we are forming characters that will cast their influence upon the world, *now* we are sowing the seed, *then* we will reap the harvest. If we now pass life's golden mementos, listless, and as though we had no duties to perform, no part to act in life, then when the harvest is to be gathered, the fruit in the garden of our hearts will be found blighted, the flowers withered, and naught but tares will be yielded, when all that is good and lovely might have flourished. Oh! let not such a life be ours, but whatever may be our vocation, as our lot on earth, let us fulfil its duties aright. "Onward and upward" ever be our motto. Let us go forth and act undimly upon the moral battle fields of life and may Heaven nerve us to the contest!

M. A. G.

Alton, Illinois.

(Written for the Valley Farmer.)

### AN ACROSTIC.

Thrice welcome, little messenger,  
Happily again we greet thee;  
Ever coming fraught with gladness.  
Very joyously we greet thee,  
As of pleasant, kind instruction,  
Lessons oft to us thou givest;  
Let thy pages still increase,  
E'er grow bright while thou livest.  
Youth and age, and ripened manhood  
Find such lessons mid thy pages,  
As shall yield a glorious harvest,  
Reaped, per chance, in future ages.  
May heaven's blessings leave thee never;  
Endless light upon thy pages  
Rest and brighten them forever.

M. A. G.

Alton, Illinois.



## The Young Folks' Page.

### WRITING;

OR, LITTLE SARAH RICH.

After Sarah Rich had completed her studies with her mother, she was sent to an excellent school, for the completion of her studies.—Here she found strong competitors in her classes. She must study well or lag behind. She was often discouraged and wrote in sadness to her mother, but as often she received generous encouragement from her judicious mother.—Her parents had but little property and she saw no other way than that she must be thorough so that she might make use of her education for her support when she should be through with her school studies.

She pressed on, though often weary and dispirited. Many an evening did she weep for the poor progress of the day. But her pleasant schoolmates and kind teachers encouraged her and at length she left her school for other duties. Through all her course she had been required to write essays or compositions. It was a task she always dreaded, but always performed as well as she could. At the examination of her school when her class graduated, to her surprise she was appointed to write the closing address, an appointment always regarded as in the highest degree honorable. She did her best with the address, and it was received with much praise. When the day was spent and she had gone to her room for rest, she was full of sadness and pleasure. She was about to leave her pleasant school and school friends and had received such words of praise as she had never expected to have bestowed upon her. She remembered her mother's story of the trials of the editor of the Child's Magazine. Little did she sleep that night for she was full of the visions of the past and the future.

Now the question came, what shall I do for my support? She went out as a teacher and met with fair success. But still she studied and wrote. Her success with her closing address gave her courage. She wrote many short articles. She kept a diary of all her doings and experiences; she wrote many letters to her friends, and wrote everything with the utmost care. At length she ventured to offer an article for publication. It was received and published without comment. Soon followed another, and another, and another. At length people began to ask, who is "Esther?" for she had written over this assumed name. Still article followed article, and everybody talked of Esther. She became the public theme and praise. She heard it all, for no one knew who she was, and she thought of the editor of the Child's Magazine. So much praise

did not make her vain. She resolved that her pen should write only that which would instruct and benefit. By and by she wrote books in her own name and thousands blessed Sarah Rich as she had the editor of the Child's Magazine.—She learned to write through much study and toil and her writings were always useful and inspiring. She always encouraged the young to study and read and write, that every power might be devoted to its best use. \*

### TEMPERANCE.

There are many virtues which children can practice as well as older people, such as honesty, charity and temperance. And it is very important that they should begin when they are very young to practice all good works. They will thus learn to be good from habit. We have just read a story of a boy who was taught to be temperate by his mother, which every child ought to read. This is the story: A mother among the green hills of Vermont had a boy sixteen years old who had determined to go to sea. He had read stories of a sailor's life and wanted to go out upon the wide ocean.—Go he must. He could not give it up. He was crazy to leave his quiet home among the hills for a home on the billows. So he was got ready to go. And his mother fearing she should never see him again, with tears and sobs parted with him at the garden gate. And as she held his hand, she thought perhaps for the last time, she said, "Edward they tell me that the great temptation of the sailor's life is drink. Promise me before you quit your mother's hand that you will never drink." "And I gave her the promise," said he, (for he told the story years after, himself,) "and I went the broad world over, Calcutta, the Mediterranean, San Francisco, the Cape of Good Hope, the North Pole and the South—I saw them all in forty years, and I never saw a glass filled with sparkling liquor that my mother's form by the garden gate, on the green hill side of Vermont, did not rise before me, and to-day, at sixty, my lips are innocent of the taste of liquor."

But this was not all of the story. The old man went on. "Yesterday there came a man into my counting room, a young man of forty, and asked me, 'Do you know me?' 'No.'—'Well,' said he, 'I was once brought drunk into your presence on ship board; you were a passenger; the captain kicked me aside; you took me to your berth and kept me there till I had slept off the intoxication; you then asked me if I had a mother; I said I never knew a word from her lips; you told me of yours at the garden gate, and to-day I am the master of one of the finest packets in New York and I come to ask you to come and see me.'"

That Vermont boy gave heed to his good mother's advice and never touched the intoxicating cup. He became a sober good man and made others so. All other boys should do as he did, keep their lips innocent of strong drink. All other mothers should be like his, and teach their boys to abhor the drink that leads to ruin. \*



## Editor's Table.

### NOTICE—REMOVAL.

The office of the VALLEY FARMER, in St. Louis, has been removed to the North-East corner of Fifth and Chestnut streets, in the new building opposite the Court House—room No. 7, 2d floor.

### The Weather and the Crops.

Since the wheat and oat harvest, the weather generally throughout the West and South-west, has been more favorable for corn; where the fields were clean it has made a good growth. In the sections where it was most affected by excessive rains, though not destroyed, it has come forward rapidly. It will, however, be late in maturing, and will require a favorable fall to enable it to escape injury from frost. On the high lands of Tennessee and Kentucky the crop is more promising than it is farther north and west. In many sections in Missouri and Illinois it is now suffering greatly for rain. With the most favorable termination of the season, taking the great corn States together, the crop will be far below an average, owing, however, much to the total loss of the crop on the extensive bottom lands.

### The Mails.

We regret to receive complaints from some of our subscribers of the non-receipt of the Valley Farmer at some of the small country post offices. We can assure our friends that everything is done on our part to insure the prompt delivery of the Farmer to every subscriber. The number for each month is regularly mailed during the last days of the month previous to the date of publication, so that the work may reach the most of our subscribers by the first of the month, and those residing more remote, from the first to the tenth of the month at farthest. Any delay or omission beyond this must be owing to the inattention of those connected with the post office department or to some unavoidable accident.

We will say again that we wish to be notified of any and of all failures of the Farmer to reach its destination within the time stated above, so that we can forward other numbers at the earliest possible date.

### The St. Louis Fair.

The Fair of the St. Louis Agricultural and Mechanical Association will commence on the 6th of September and continue one week. It will, without doubt, be by far the greatest exhibition held in the United States this year. It will be a credit to the Agricultural and Mechanical interests of the great Valley of the Mississippi. The Premiums by far surpass anything ever offered either in the Old or New World. Consequently we may look for the most spirited competition, and for the greatest concourse of people ever congregated at an exhibition of the kind. We hope to see the farmers and planters here in great numbers. Such an exhibition will well pay them for the time and expense of attending.

**WHEAT.**—Large quantities of wheat are now coming into the markets of Lexington and Paris. It is shipped over the Kentucky Central Railroad. The highest price paid at these markets is 80 cts. per bushel.

### The Illinois State Fair.

This exhibition will commence on the 14th of September, the week following the St. Louis Fair, and from all we can learn, promises to be the greatest exhibition ever held in the State of Illinois. "Egypt" is wide awake and feels the importance of having a fine exhibition. Great preparations are being made at Centralia to accommodate the tens of thousands who will be in attendance.

### Kentucky Fairs.

The annual fair at Winchester, is advertised to take place on the last Tuesday in August. We regret that notice did not reach us in time to have made the announcement in our last number.

If the officers of the several societies in Kentucky, Indiana and other States, where the Farmer circulates, will give us notice at the St. Louis office, of the time of holding their fairs, we shall be pleased to insert them.

**NELSON Co., (Ky.) FAIR.**—The third exhibition of the Nelson county Agricultural and Mechanical Association will be held on the fair grounds near Bardstown, Sept. 21, 22, 23 and 24. The society offer \$1,500 in premiums, and have published an attractive pamphlet containing their list of premiums, &c.

### Bourbon, Ky., Fair.

We have received the premium list of the 23d annual fair of the Bourbon Co., Ky. Agricultural Society, to be held at Paris, on the 7th, 8th, 9th and 10th days of Sept. 1858. The following is a list of the officers of the society:

Brutus J. Clay, President; W. C. Lyle, Richard Hawes, Vice Presidents; T. L. Cunningham, O. H. Burbridge, Vol. Hildreth, J. H. Lindsay, F. P. Clay, Benj. C. Bedford, Henry Clay, Jas. Jacoby, James Hall and Wm. S. Rogers, Directors; W. W. Mitchell, Treasurer; A. M. Brown, Secretary.

### ANNUAL FAIR OF THE AMERICAN INSTITUTE.

The thirtieth annual fair of the American Institute will be held in the Crystal Palace in the city of New York, and will be open to the public on the 15th of September and close on the 29th of October. William B. Leonard, Esq., is the agent to whom all articles intended for exhibition should be sent.

**MEETING OF THE AMERICAN POMOLOGICAL SOCIETY.**—The meetings of this society are held biennially, and that for the present season, will be held at Mozart Hall, 663 Broadway, New York, on the 14th inst. The discussions of this society and the examples that have been set by the members comprising it, have done much to extend and promote the culture of fruit throughout the United States; and what has now been done we regard as hardly the beginning of what will be accomplished within a few years to come. We hope the meeting will be fully attended by persons from all parts of the country; and we would urge upon all who can to bring specimens of all the choice varieties of fruit in their several sections of country.

It has also been proposed that the Agricultural Editors throughout the country attend at this time, and have a friendly meeting.

The opening of the exhibition of the American Institute also takes place about this time, which, with the other attractions of the great city of New York at this delightful season of the year, should bring together a large concourse.

### To Wheat Growers.

Don't forget that Messrs. Kingslands & Ferguson, of St. Louis, the enterprising manufacturers of J. H. Manry's celebrated Combined Reaper and Mower, which took the Gold Medal premium at the great National Trial of Reapers and Mowers, at Syracuse, N. Y., last year, for being the best Combined Machine, offer one of these Machines for the best five acres of wheat raised this year. Let there be a spirited competition for it. The premium is a liberal one, and Messrs. Kingslands & Ferguson deserve well of the public for their generosity in donating it to the St. Louis Agricultural and Mechanical Association to be offered as a premium to the successful competitor.

### Liberal.

Mr. E. DEAN, general agent for Singer's Sewing Machines in the West, offers two premiums of \$100 each for the best specimen of work done on a machine originally purchased at any of his establishments. One of these premiums is to be awarded to work exhibited at the St. Louis fair in September, and the other at the Memphis, Tenn., fair in October.

We take this opportunity of cautioning our readers against the many worthless machines recently thrown into the market, most of them under the designation of cheap machines. The "Scientific American" says, no reliable Sewing machine has yet been made at a less cost than \$60.00.

We feel authorized in recommending the Singer machine and the agent, Mr. Dean. These machines have been fully tested and found to be reliable in every sense—easily operated, and capable of fulfilling the grand object of a Sewing Machine, viz: to do all kinds of work in the most substantial and economical manner. Mr. Dean guarantees every machine to be and to do all that he represents it, and he will furnish the most satisfactory references if desired.

### COTTAGE GARDEN NURSERIES, Cincinnati, O.—

While in Cincinnati, recently, we paid a short visit to the above Nurseries, which are conducted by Mr. John Sayers, a most reliable man and one of the most careful nurserymen in the country. Mr. Sayers has an excellent assortment of fruit and ornamental trees, plants, &c., which he cultivates with great care. From a small beginning, made many years since, Mr. S. has by his industry established one of the largest and most reliable nurseries in the West. Those wishing to purchase trees, plants, &c., at Cincinnati, we can confidently recommend to Mr. Sayers' establishment.

**DROUGHT.**—In many parts of the West there is a great want of rain. The corn crop, on this account, is suffering materially in many parts of Missouri. The ground is so dry and hard that it cannot be plowed and prepared for seeding to wheat. We hope, however, that the parched regions will soon be favored with propitious showers.

### Agricultural Festival.

We have seldom spent a day more pleasantly than at Salem, Marion county, Ill., on the 11th ult., at the Festival of the Farmers of that county. The dinner was a sumptuous one, prepared in the finest taste, by the ladies of Salem and vicinity, who deserve the greatest praise for their exertions in rendering the occasion, in all respects, a most pleasant one to all who were present, and a profitable one to the Marion county Agricultural Association. The object of the Festival was to aid in raising funds for the benefit of the Society. That object was secured. But a higher object still was attained. Farmers met together as brothers, engaged in a great and noble pursuit. The best feeling pervaded all who were present, and when they returned to their homes they loved their profession better, and felt the day had been profitably spent. We should be glad to see all of our agricultural societies holding these festivals. They would prove great aids to the progress of agriculture, and tend to elevate the profession of the farmer. Other professions have their festivities—why should not the agriculturists have them?

The "Salem Advocate" has the following in regard to the occasion of which we have been speaking:

"According to notice the Agricultural Dinner came off last Wednesday. Notwithstanding the extreme warmth of the weather, the turnout was very large. Two tables were set, the full length of the hall of the District School house, which were made to groan with the abundance they bore. About half-past one, dinner was announced as ready, and the guests were admitted, who did ample justice to the choice viands before them. After dinner, NORMAN J. COLMAN, Esq., of St. Louis, addressed the large assemblage of people in a very able and interesting speech of about an hour and a half in length, on Agriculture, which was received with rounds of applause by a delighted audience.

In the evening a supper was given at the same place, the proceeds of which were for the same purpose. The attendance was large, consisting, principally, of the young folks of Salem and vicinity. All seemed to enjoy themselves much, and everything passed off as 'merry as a marriage bell.'"

**THE OLD DOMINION COFFEE POT.**—We are not in the habit of puffing articles because they are advertised in our journal, unless we have had opportunities of trying them, and find them to be as recommended. One of the above coffee pots was presented to us with the request that we should give it a thorough trial. This we have done, or rather our "better half" has done it for us, and we can confidently recommend it as being a decided improvement on the old method of making coffee.—Those who like a good cup of coffee ought by all means to have the "Old Dominion Coffee Pot."

### The Missouri Educator.

It gives us pleasure to state that a paper devoted to the cause of Education has been established at Jefferson City, Mo., bearing the above title. We hope it may be well sustained and become an efficient instrument in advancing the cause of popular education in our State. The happiness of our people, and indeed the perpetuity of our institutions are dependant upon enlightened mind, instead of blind passion, which is too generally in the ascendancy, in the absence of cultivated reason. Let the friends of education rally to its support—contribute to its columns, and use their best exertions to sustain it. It is published by THOS. J. HENDERSON, Esq., at \$1 per annum.

**A CRYSTAL PALACE IN CANADA.**—The Provincial government of Canada has given to the corporation of Toronto a large tract of land for the purpose of a park, on condition that a portion of it shall be appropriated to the holding of the Provincial Agricultural Association's exhibitions. The proposition has been accepted and arrangements have been made for erecting a permanent building in the style of a crystal palace. The corporation of Toronto have, by a vote of the city council appropriated \$20,000 for this purpose, and the authorities of other cities in the province will also make liberal appropriations in aid of the project. The work of the building is rapidly going forward. It is to be constructed principally of iron and glass. It will be 356 feet long and 144 feet wide, with a total area of floor, exclusive of four spacious stairways, of upwards of 32,000 superficial feet. The extreme height of the building is to be 55 feet. The whole work, according to contract, is to be finished on or before the first day of September of the present year, and in time for holding the Agricultural Association's exhibition this fall.

#### Plowing by Steam.

Efforts are still being made to perform the most important part of farm labor by steam power. Mr. Chas. Mann, of Troy, N. Y., has put into operation a steam locomotive for the purpose of plowing. A trial recently took place near Troy, at which the officers of the New York State Agricultural Society and a number of other distinguished persons were present. Like all other new enterprises of the kind, difficulties were encountered, which, by modification and perseverance we hope may be overcome, and which Mr. Mann is quite confident can be accomplished. The machine is intended for exhibition at the coming State fair, to be held at Syracuse, for the premium of \$250, offered. May success attend it.

**FATAL DISEASE AMONG THE CATTLE OF GEORGIA AND FLORIDA.**—A most fatal disease was reported a short time since to have broken out among the cattle and deer in Florida and extended into Georgia. In a late Southern paper we see it stated that the disease has also broken out in South Carolina, and the butchers in the Columbia, (S. C.) market announce in a card that they consider it a duty to the public, as well as to themselves, to stop offering beef in market for the present. They state that the cattle they have on hand would be regarded by most persons as perfectly sound, but their experience proves them to be laboring under this disease. They state that the first symptoms of the disease is a slight swelling of the lips. Further symptoms are not given. Whether the disease will extend to us further north, remains to be seen. We give all that we know of it, so that if it should show itself in herds belonging to any of our readers, they may recognize it.

#### New Hemp Cutting Machine.

Mr. Thomas Berry of Mason county, Kentucky, has obtained a patent for a new hemp harvester to be operated by horse power. We are not acquainted with the principle upon which this machine is operated, but we have always contended that cutting hemp by machinery was not only practicable, but with the present light of the world the thing would be easily accomplished, and that too with a very simple machine. Cutting and breaking hemp are among the most severe labors of the farm, and it is high time that the inventive genius of the land made the matter a subject of study and perfect machines for these operations. A great fortune awaits the inventors.

#### State Fairs for 1858.

The following State Fairs are to be held during 1858:

Alabama, at Montgomery, Oct. 18 to 22.  
California, at Marysville, Aug. 23 to 28.  
Connecticut, at Hartford, Oct. 12 to 15.  
Illinois, at Centralia, Sept. 14 to 18.  
Indiana, at Indianapolis, Oct. 4 to 9.  
Iowa, at Oskaloosa, Sept. 27 to Oct. 1.  
Kentucky, at Louisville, Sept. 27 to Oct. 1.  
New Hampshire, at Dover, Oct. 6 to 8.  
New Jersey, at Trenton; Sept. 14 to 17.  
New York, at Syracuse, Oct. 5 to 8.  
Ohio, at Sandusky, Sept. 14 to 17.  
Rhode Island, at Providence, Sept. 14 to 17.  
Vermont at Burlington, Sept. 14 to 17.  
Virginia, at Petersburg, Oct. — to —.  
Wisconsin at Madison, Oct. 4 to 7.  
United States, at Richmond, Va., Oct. 25 to 30.

#### Fairs in Missouri for 1858.

St. Louis Agr. and Mech. Association, Sept. 6 to 12.  
N. E. District, Paris, Sept. 13 to 18.  
S. W. District, Springfield, Sept. 20, 21, 22.  
S. E. District, Oct. 7, 8, 9.  
Howard Co. Agr. Soc., Fayette, Sept. 14 to 18.  
Pettis Co., " " Georgetown, Sept. 14 to 17.  
Lafayette Co. " " Lexington, Sept. 14 to 18.  
N. W. District, " " St. Joseph, Sept. 21 to 23.  
Saline Co., " " Miami, Sept. 21 to 24.  
Boone Co., " " Columbia, Sept. 30 to Oct. 2.  
Central District " " Booneville, Oct. 4 to 10.  
Morgan Co., Versailles Sept. 28 to Oct. 1.  
Marion co., Palmyra, Oct. 12 to 16.  
Chariton co., Brunswick Sept. 27 to 30.  
Calloway co., Fulton, Sept. 21 to 25.  
Clay co., Liberty, Oct. 5, 6, 7.  
Jackson co., Independence Sept. 28 to Oct. 1st.  
Cass co., Harrisonville, Sept. 21, 22, 23, 24.  
Pike co., Bowlinggreen, Sept. 21, 22, 23, 24.  
Randolph, Huntsville, August 31, Sept. 1, 2, 3.  
Gasconade, Herman, September 21, 22.  
Monroe, Paris, Sept. 13, 14, 15, 16.  
Clinton, Plattsburg, Sept. 14, 15, 16, 17.  
Greene, Springfield, Sept. 20, 21, 22, 23.  
Ray, Richmond, Sept. 21, 22, 23, 24.  
Buchanan, St. Joseph, Sept. 21, 22, 23, 24.  
Montgomery, Danville, Sept. 22, 23, 24, 25.  
Knox, Newark, Sept. 28, 29, 30, Oct. 1.  
Cooper, Booneville, Oct. 4, 5, 6, 7, 8, 9.  
Ralls, New London Oct. 6, 7, 8, 9.  
Polk, Bolivar, Oct. 7, 8.  
C. Girardeau C Girardeau Oct. 7, 8, 9.  
Dade, Greenfield, Oct. 13, 14, 15.

#### COUNTY FAIRS IN ILLINOIS.

Cass.....	Virginia.....	Aug. 31	Sept. 2
St. Clair.....	Belleville.....	"	1, 3
McLean.....	Bloomington.....	"	2, 4
Henry.....	Cambridge.....	"	8, 9
Rock Island.....	Rock Island.....	"	8, 9
Macon.....	Decatur.....	"	7, 10
Pike.....	Pittsfield.....	"	8, 10
Union.....	Jonesboro.....	"	10, 11
Lee.....	Amboy.....	"	15, 17
Champaign.....	Urbana.....	"	21,
Kane.....	Geneva.....	"	23, 24
La Salle.....	Ottawa.....	"	28, 30
Peoria.....	Peoria.....	"	21, 24
Scott.....	Winchester.....	"	22, 24
Winnebago.....	Rockford.....	"	21, 24
Du Page.....	Wheaton.....	"	28, 30
Will.....	Joliet.....	"	28, 30
Tazewell.....	Tremont.....	"	"
Warsaw.....	Warsaw.....	Sept. 29	October 1
Edgar.....	Paris.....	" 28	" 1
Morgan.....	Jacksonville.....	" 28	" 1
Adams.....	Quincy.....	" 29	" 1
Carroll.....	Mt. Carroll.....	" 29	" 1
Mason.....	Havana.....	" 29	" 1
Montgomery.....	Hillsboro.....	" 28	" 1
Bureau.....	Princeton.....	" 29	" 1
Lake.....	Liberty.....	"	5, 6
Livingston.....	Pontiac.....	"	6, 7
Kankakee.....	Kankakee.....	"	6, 8
Monroe.....	Waterloo.....	"	14, 16

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## Book and Job Printing

Of every description neatly and expeditiously executed at the VALLEY FARMER OFFICE. We have now our office well supplied with new materials for doing all kinds of

## JOB and PAMPHLET PRINTING.

And will give particular attention to printing Catalogues for Nurserymen and Seed and Implement Dealers—Premium Lists and Show Bills for Agricultural Societies. Also all kinds Circulars, Cards, Blanks, &c., &c. Office, corner of Fifth and Chesnut streets, St. Louis.

COTTAGE GARDEN NURSERIES,  
CINCINNATI, OHIO.Fruit and Ornamental Trees, Evergreens,  
Flowering Shrubs, &c., &c.

The proprietor of the above named Nurseries, offers for sale the coming season, a full assortment of Fruit and Ornamental Trees of the most approved varieties and sturdy growth, and of suitable size for transplanting, consisting in part of

APPLES,	APRICOTS,
PEARS,	NECTARINES,
CHERRIES,	QUINCES,
PEACHES,	GRAPES,
PLUMS,	CURRENTS,

GOOSEBERRIES, RASPBERRIES, STRAWBERRIES. The Ornamental Department contains all the most desirable varieties of Evergreens and Deciduous Trees, Flowering Shrubs, Roses, Climbers, &c., &c.

The subscriber would call particular attention to his fine collection of

## DWARF PEARS.

Having paid particular attention to their cultivation, he has great pleasure and confidence in offering them to the notice of purchasers. They are all worked on the best varieties of French Quince stocks—are remarkably healthy and in a fine state for transplanting the coming season. A few Standard Trees of the best sorts can be furnished, of Extra size and in a bearing state that will give fruit immediately after becoming established.

All the above stock will be furnished at prices that will compare favorably with any other establishment.

Packing done in the best manner.

Catalogues furnished all who enclose stamps for prepayment. Address JOHN SAYERS, sept Cottage Garden Nurseries, Cincinnati, Ohio.

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ELLWANGER & BARRY solicit the attention of Planters, Nurserymen, and Dealers in trees, to their present stock, which has never been equalled in extent nor surpassed in vigor, health, and beauty of growth.

It embraces

Standard and Dwarf Fruit Trees of all kinds, and of various ages.

Grapes, all the best new and old hardy sorts for the Garden and Vineyard, and all the best foreign sorts for Vineries.

Small Fruits, including all the finest Strawberries, Raspberries, Gooseberries, Currants, Blackberries, &c. (The stock of American Seedling Gooseberries and of New Rochelle or Lawton Blackberries, is the largest in existence.)

Rhubarb, Linnaeus and all the best sorts.

The ORNAMENTAL DEPARTMENT embraces the finest collection of

Deciduous Ornamental Trees,

Weeping or Drooping Trees.

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Roses, Feonies, Dahlias, &c.

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Stocks for Nurserymen, including Pear Seedlings, one and two years.

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Parties interested are invited to examine the stock. To those who buy largely, prices will be made entirely satisfactory, as the stock is very great and must be reduced.

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No. 1—Descriptive Catalogue of Fruits.

No. 2— do do of Ornamental Trees, & Shrubs, &c.

No. 3— do do of Dahlias, Greenhouse Plants, &c.

No. 4—Wholesale Catalogue.

See advertisement of Fruit Trees, Stocks, Bulbs, &c.

ELLWANGER & BARRY.

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We have now in store six new 8 Horse Threshers and Cleaners, RALSTON'S PATENT, with the Latest Improvements, made in Belmont county, Ohio—at manufacturer's prices. JOHN GARNETT & CO., sep.2m. 68 Second street, St. Louis, Mo.

## WILSON'S ALBANY SEEDLING.

BEST AND MOST PROLIFIC

## STRAWBERRY!

Yields 200 Bushels Per Acre!!

Unequalled for Size, Color, Flavor and Long-continued Ripening—is perfectly hardy and quite early.—Plants set out this fall or early in the spring will bear in season of 1859.

Can be transplanted safely during the whole of September and October at the North, and until end of November at the South. Circular with engraving of fruit sent to all applicants enclosing stamps.

Price, packed and delivered in Albany, at \$10 a thousand—\$1.50 a hundred, or \$1 for fifty. Orders with cash, promptly attended to by

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50,000 GRAFTED APPLE TREES, 4 years, 5 to 8 feet.

200,000 Orange Orange Plants, 2 years old.

300,000 Apple Stocks, 1 and 2 years old,

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